

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 743.—VOL. XIX.]

LODNON, SATURDAY, NOVEMBER 17, 1849.

[PRICE 6D.

TO ENGINEERS, MACHINE-MAKERS, FOUNDERS, BOILER-MAKERS, STEAM-SHIP AND LOCOMOTIVE BUILDERS, AND OTHERS.

ENGINE WORKS, FOUNDRY, &c. FOR SALE, AT ABERDEEN.—UPSET PRICE REDUCED TO £10,000.

There will be exposed to UNRESERVED SALE, with the Good-will of the Business, BY PUBLIC AUCTION, within the Leman's Tree Tavern, Aberdeen, on Wednesday, the 12th day of December next, at Two o'clock afternoon, at the reduced upset price above-mentioned, those extensive PREMISES at FOOTDEE, ABERDEEN, known as the YORK PLACE IRON-WORKS, belonging to Messrs. W. Simpson and Co., together with the whole MACHINERY, FIXED TOOLS, and PATTERNS, contained therein.

These works contain large turning, fitting-up, and finishing shops, millwright and pattern shops, large iron foundry, boiler shop, brass foundry, forging and blacksmith's shop, iron store, warehouses, and counting-house. The whole of the buildings are of the most substantial, commodious, and suitable description for the various trades carried on within them, and are in excellent order, having been erected only 10 years ago, at a large expense.

The situation of the works is most advantageous, being within 100 yards of the dock, and the feu-duty payable on the premises is but £50 per annum.

No expense has been spared in the procuring of the tools and machinery. They are of the fullest and most modern description, and in excellent working order (some of the locomotive tools are quite new), and are capable of turning out every kind of ironwork, including the largest size of marine and land engines, locomotive engines, railway fittings, and general machinery and blacksmith work. There is a large and most valuable assortment of patterns, of all descriptions, which will be given over with the works as part of the plant.

There is a fixed condensing engine of 25-horse power, with two boilers, and an ample supply of water within the premises, with all the requisite gearing and shafting for driving the machinery and tools.

There is also, in separate premises, a high-pressure engine, of 6-horse power, with all the tools, heating stoves, and utensils, suitable for the building of the largest class of iron vessels.

The upset price of £10,000, being but a small part of the cost of these works, which are complete, and capable of carrying on a very large trade, a more favourable opportunity of entering into the business can scarcely occur.

In the meantime the works are continued in full operation, and the purchaser will have the advantage of a long established connection.

The demand for machinery and iron goods is very extensive in this city and neighbourhood, and the larger and increasing number of steam-vessels now engaged in the trade of the port, together with the railway communication now about completed to the south, must very greatly augment that demand, and consequently add to the value of these works. The stocks of iron and other goods belonging to the works, with the loose tools, will, if desired, be given over to a purchaser at valuation.

Inventories of the tools, utensils, and patterns, with plans of the works, may be obtained, and all further particulars learned, on application to W. Simpson and Co., York Place Iron Works, Footdee, Aberdeen; or to Ellis Marsden, engineer, 13, Hungerford-street, Strand, London.—Aberdeen, October 9, 1849.

IMPORTANT SALE.

GALVANIZED IRON COMPANY'S WORKS, STAFFORDSHIRE.

KINGSWINFOR, CORBYN'S HALL AND TILED HOUSE ESTATES, DARLASTON, GREEN MINERAL ESTATE, AND PHENIX IRON-WORKS, WEST BROMWICH.

MESSRS. OATES & PERRENS have been honoured by the directors of the above company with instructions to SELL, BY PUBLIC AUCTION, at Dosey's Royal Hotel, BIRMINGHAM, on Thursday, the 29th day of November inst., at Twelve o'clock precisely, either together or in the following, or such other lots as may be agreed upon at the time of sale, and subject to such conditions as will be then produced, the WHOLE of their newly-opened and improved WORKS and MINES in SOUTH STAFFORDSHIRE—viz.:

LOT I.—PHENIX IRON-WORKS.

All that most desirable and eligibly situated FREEHOLD IRON-WORKS and PREMISES, THE PHENIX IRON-WORKS, WEST BROMWICH, in the county of STAFFORD. THE MILLS and FOGEES of which comprise the following PLANT AND MACHINERY—viz.:

An ENGINE, 100-horse power, by Boulton and Watt, in brick engine-house, with 235-feet boilers, complete, and recently erected, driving a forge; a 20-inch boiler plate tram, and rail mill, to which are attached 2 punching and straightening machines, driven by an engine of 100-horse power.

An ENGINE, of 60-horse power, by J. and G. Davis, in brick engine-house, with 35-feet boilers, driving a forge; an 18-inch boiler-plate and sheet mill; and a 16-inch tram for the manufacture of bars, &c., and angle iron. With this work is an engine, 20-horse power, driving an 8-inch merchant tram, saw and turning lathe—the whole employing 24 puddling and heating furnaces, and being capable of manufacturing from 350 to 4,000 tons of finished iron per week.

There is also belonging to this work blacksmiths' and wheelwrights' shops, stock-takers, and general offices, &c., together with an ample wharfage of seven boats' length from the Birmingham Canal, and an excellent frontage to the turnpike-road leading from Swan Village, West Bromwich, to Oldbury.

The premises, which are most eligibly situated, occupy about two acres of land, the valuable mines under which (belonging to the company) remain unopened. With this lot will also BE SOLD the following PROPERTY (left on lease for 21 years, of which 18 are unexpired), consisting of an excellent DWELLING-HOUSE, with OUTBUILDINGS and APPURTENANCES, and about FOUR ACRES of PASTURE LAND, now in the occupation of Mr. Spencer, manager to the said works; a SMALL WHARF and STORE-YARD adjoining the works; FOUR WORKMEN'S COTTAGES, with GARDENS and APPURTENANCES thereto belonging, now in the occupation of William Williams, John Harley, Richard Horton, and Sarah Summers, together with a capital 8-quarter MALT-HOUSE, adjoining to the said canal, in the occupation of William Downing.

LOT II.—DARLASTON GREEN MINES,

Consisting of about TWENTY-SIX ACRES of these excellent and well-known MINES of COAL and IRONSTONE, situated at DARLASTON GREEN, in the parish of Darlaston, and county of Stafford, which have been recently opened by the Galvanized Iron Company, and which are now in complete working order, having been well and completely drained. The PLANT comprises THREE WINDING ENGINES, of 24-horse, 26-horse, and 14-horse power, with SIX PIT SHAFTS, WINDING and PUMPING APPARATUS, the whole of which is in the most efficient state.

The greater portion of the mines remain unopened, and are held under lease for a term of years, of which 23 are unexpired. The Birmingham Canal runs into the property, for the produce of which there is an abundant demand in the surrounding district.

LOT III.—KINGSWINFORD, CORBYN'S HALL, AND TILED HOUSE ESTATES,

Comprising the valuable MINES of THICK, or TEN-YARD COAL, BROOCH COAL, IRONSTONE, and other MINES and MINERALS, now remaining to be gotten under upwards of 203 acres of land, situate in the parish of Kingswinford and county of Stafford; the whole PLANT and MATERIALS of which are now in complete working order, and comprise a sufficient number of SHAFTS, SUIT to the various measures, and worked by nine powerful engines; FOUR BLAST FURNACES, in an efficient state, capable of making from 500 to 600 tons per week, with superior blowing engines of 65-horse and 50-horse power, in brick engine-houses, bell-glass apparatus, complete 4 casting-houses, fitted with cranes, &c.; 2 founders, with air-furnace and cupolas, dry stone, &c.; lift to furnaces, with railway and inclined plane from Canal Basin, worked by high-pressure engine, 20-horse power; blacksmiths' shopping, 4 hearths, carpenters' and patternmakers' shops, fitting-up shop, with lathes, driven by 4-horse power engine, and large store rooms.

The newly erected and excellently arranged MILL and FORGE comprises the following PLANT and MACHINERY—viz.:

ENGINE, 65-horse power, by J. and G. Davies, with hammer-squeezers, shears, and mine-crushing roller tram of 3 pairs of forge calls, sheet and plate rolls, corrugated iron rolls, heating and annealing furnaces, and 10 puddling furnaces—the whole in complete working order. Attached to this work is the GALVANIZING HOUSE, 105 feet by 45 feet, with pickling tanks, metal bath, 2 drying stoves, steam generator, warehouse, with clerks' office and machine house.

The surface land is in the occupation of Benjamin Gibbons, Esq., and others; there are also on the estate 2 desirable residences, Corbyns Hall, with outbuildings, gardens, &c., in the occupation of Benjamin Gibbons, Esq., jun., and the Tiled House, with ample clerks' offices, stables and garden, suitable for managers' residence, now in the occupation of C. Woodcock, Esq., together with stabling and outbuildings, sufficient for the horses employed on the property.

The estate is admirably situated, the Stourbridge Extension Canal and Shandhill's Branch passing through the property, and having basins running into the centre of the works. The King's Norton Branch of the Oxford, Worcester, and Wolverhampton railway passes through the estate, which is surrounded by excellent turnpike-roads, and is intersected in all parts by turnpikes belonging to the property, affording the greatest facility for conveyance, land, and cost, &c.

The property will be sold subject to the terms and conditions of the lease under which it is held. The Tiled House property is held for a term of 21 years, of which 14 are unexpired, with a power of renewal for a further term of 21 years. The Corbyns Hall property is held for a term of 56 years, from the 1st day of August, 1845, of which 52 years are unexpired.

The auctioneers earnestly beg to call the attention of the iron trade and capitalists generally to this valuable and most eligible property, which, from its situation and the superiority of its mines and erections, ranks among the first iron-works of South Staffordshire; they have also received instructions to state, that every reasonable advantage will be given to purchasers in the mode of payment, for which an extended period of time will be allowed, on proper security being given.

To view the property, and for further information, apply to Mr. Spencer, manager, Phoenix Iron-Works, West Bromwich; William Manders, mine bailiff, Darlaston Green Colliery; Mr. Woodcock, Tiled House, Kingswinford; Mr. Job Taylor, mine agent, Bromley, Kingswinford; Messrs. Westmacott and Pliniger, solicitors, 28, John-street, Bedford-row; Mr. Samuel Fry, solicitor, Walbrook, London; of the auctioneers, Stourbridge; or at the offices of the Galvanized Iron Company, No. 8, Mansion House-place, London.—Particulars of the property, with lithographed plans, will be distributed one fortnight prior to the sale, and may be had at the principal inn of the neighbourhood; Herald Office, Birmingham; Mercury Office, Liverpool; or at the above-named places of reference.

PROPERTY FOR SALE IN SWEDEN.—

For TEN THOUSAND POUNDS, an IRON MINE, with BUILDINGS, a MILL, and about TEN THOUSAND ACRES of Forest and Land, TO BE SOLD BY PRIVATE CONTRACT. The Iron is of first-rate quality, marked K.L.P., and, since 1845, marked A.W.R.A., and is sold to Sheffield and the American markets. There are splendid hunting grounds (bears, foxes, hares, and fowls), and fisheries of salmon, &c., &c., on the estate, which has a most advantageous situation near the Baltic.

Apply personally, or by letter (within fourteen days), to L. Hollenius, merchant, Newcastle-on-Tyne.

IMPORTANT TO CAPITALISTS.

VALUABLE SLATE VEIN IN THE MARKET.—

Proprietor of a valuable SLATE VEIN, or BED, covering an area of 62 acres, one-fourth of a mile in width, and rising to an altitude of fully 900 feet (the property of which is freehold), is desirous of obtaining a PURCHASER for the SAME, who will be allowed advantageous terms, with an assured certainty of ample returns for the needful expenditure required for carrying on extensive operations; and which, from the nature of the slate formation—stratum rising over stratum—ample space (with a deep fall) for rubbish deposit, free drainage, dispensing with the usual adjunct machinery, will not necessarily reach a tenth-part of the average working outlay of the generality of slate quarries. The Slate Vein, to which attention is drawn in this advertisement, is situated on the margin of a navigable lake, in Carnarvonshire, North Wales, within six miles (four of which is the post-road) of an excellent shipping port.

Carnarvonshire is noted as the great emporium of the slate trade, which affords constant and lucrative employment to thousands, at the same time enriching the proprietors.

The surveys of three eminent engineers have been followed up by reports of a highly satisfactory character as to the quality and quantity of this eligible slate formation, and may be had, with a view of the plan and sections, on application to Griffith Davies, Esq., Guardian Insurance Office, London; or Mr. W. Dew, surveyor, Llangefn, Anglesea.

A COLLIERY TO BE LET, situated near the DEARNE and DOVE CANAL, and the SOUTH YORKSHIRE RAILWAY, with ENGINES, WHIMSEY, and PITS, now working, in HEMINGFIELD, and near BEAMPTON BULL HEAD.—

THE COAL is about 3 feet 6 inches thick, producing about 4000 tons per acre. The colliers' wages for getting and drawing to the pit bottom are now about 18, 3d., the rent about 6d., and the sale now at the pits is 6d. per ton.

The coal sells readily at Doncaster, Hull, Brigg, Grimsby, and Louth, at Gainsborough and Lincoln, and along the banks of the Humber and Trent, and extensive new markets will be soon opened by means of the South Yorkshire Railway. In some years, six acres of the bed have been got and sold, and if six acres more can be disposed of down the railway, an enterprising company, of sufficient capital, may soon realize large profits from the Colliery.

Application may be made to Mr. Birks, of Hemingfield, near Barnsley, of whom further particulars may be had.

PONTCSYLLTE FORGE, near RUABON, DENBIGHSHIRE.—

TO BE LET (with immediate possession), all that VALUABLE IRON WORK, called the PONTCSYLLTE FORGE, with its POWERFUL STEAM-ENGINE, SHINGLING and DRAWING-OUT HAMMERS, BOLTING-DOWN and BOILER-PLATE ROLLS, HEATING and BALL FURNACES, IRON SHEARS and LATHE; manager's house, offices, warehouse, smiths' and carpenters' shops, and pattern rooms. The work compactly roofed in, inclosed by a high stone wall, and possessing every convenience and requisite for a WEEKLY MAKE of SIXTY TONS of merchant-bar and of boiler-plates.

The PONTCSYLLTE FORGE is admirably situated on the margin of the Ellesmere and Chester Canal, being separated only by the towing-path, and possessing near and convenient communications by means of railways, leading from the premises into the heart of the Ruabon Collieries; to the Shrewsbury and Chester Railway, at their Llan-gollen road and Cefn Stations, and by the canal to every part of the kingdom.

A more desirable opportunity than the present, for the profitable employment or investment of capital, is rarely offered to the public—coals being cheap and abundant, wages pig-iron low, and rent of premises moderate.

For further particulars, apply to Mr. Tomkinson, 15, Fenwick-street, Liverpool; or to Thomas Roberts, Pontcysyllte, who will show the premises.

NORTH WALES.—VALUABLE SLATE QUARRIES

FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, those VALUABLE QUARRIES, called the CAMBRIAN SLATE QUARRIES, situate in the neighbourhood of FESTINIOG, in the county of Merioneth. They have for some time been in full operation, and producing a material first-rate quality, at a comparatively trifling cost, being in the side of a mountain, water free, and not having more than from 10 to 12 feet "baring." The above property is well worth the attention of capitalists, both from its position and capability of producing, at a slight additional outlay, an almost unlimited quantity of slates—for particulars apply to

Mr. MICHAEL FORSTER, Mining Engineer, Conway, North Wales.

N.B.—These quarries are sufficiently opened out to develop both the quality of the slates and the capability of the extension of the works.

Conway, November 1, 1849.

S MELTING, OR OTHER COAL-CONSUMING WORKS.

PORT TENNANT, within the Harbour of SWANSEA, or RED JACKET, opposite to Briton Ferry, in the port of NEATH, offers very advantageous Sites for COPPER SMELTING, IRON, TIN, GLASS, PATENT FUEL, or other COAL-CONSUMING WORKS, with every convenience for shipping the goods there manufactured.

BITUMINOUS and FREE-BURNING COAL, in great varieties and inexhaustible quantities, also STONE COAL, and STONE COAL CULM, may be delivered into the works by canal, at the lowest prices.

BUILDING-STONES, of every description, will be delivered by canal, free of carriage, at the lowest expense.

Application to be made to Mr. Kirkhouse, Neath, Glamorganshire.

N.B.—All vessels entering Port Tennant are liable to half dues only, under the last Swansea Harbour Act, and to no Corporation dues whatsoever.—The dues for Neath Harbour are of very trifling amount.

JOSEPH DEELEY, of the LONDON and NEWPORT IRON-WORKS, NEWPORT, MONMOUTHSHIRE, respectfully recommends to the notice of the public his PATENT FOUNDRY FURNACE, which has been effectively tested, and is now in constant use at the above works, where it may be inspected by all persons interested. This furnace operates without the aid of any motive-power to impel the air. An immense saving is the consequence, both in erecting and working. One-third of the coke usually required is more than sufficient; a loss of only 22 lbs. to the ton being sustained in smelting.

The IRON MELTED in this furnace also undergoes an extraordinary improvement in quality.

SCOTCH PIG and SCRAP are returned equal to the best cold-blast in point of strength, and capable of being chipped or filed with the greatest facility.

FOUNDRIES USING THE FURNACE may exist in the most densely populated cities, without causing the least nuisance—all smoke, dust, and noise being entirely avoided.

The FOREIGN PATENT RIGHTS of the above are FOR DISPOSAL, affording capitalists the most favourable opportunity for profitable investment.

APPLY TO THE PATENTEE AS ABOVE.

CWM BRAIN PATENT IRON REFINERY.—

THE PROPRIETORS OF IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED BY

NEW PATENT PROCESS,

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from worst pigs, scrap, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required.

The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for one of the following purposes—

1. For BOILER and TANK-PLATES.

2. For INN-PLATES, commonly called COKE-PLATES.

3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.

4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 ½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHERAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B."

and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

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To view the property, and for further information, apply to Mr. Spencer, manager,

Phoenix Iron-Works, West Bromwich; William Manders, mine bailiff, Darlaston Green Colliery; Mr. Woodcock, Tiled House, Kingswinford; Mr. Job Taylor, mine agent,

Bromley, Kingswinford; Messrs. Westmacott and Pliniger, solicitors, 28, John-street, Bedford-row; Mr. Samuel Fry, solicitor, Walbrook, London; of the auctioneers, Stourbridge; or at the offices of the Galvanized Iron Company, No. 8, Mansion House-place, London.—Particulars of the property, with lithographed plans, will be distributed one fortnight prior to the sale, and may be had at the principal inn of the neighbourhood; Herald Office, Birmingham; Mercury Office, Liverpool; or at the above-named places of reference.

LICENSES will be GRANTED on application to

Mr. WILLIAM PRICE STRUVE, Swansea,

CIVIL ENGINEERS AND MINERAL SURVEYORS.

London.—Patent Wire Works, No. 39, High-street, Wapping, London.

WILKINS & WEATHERLY.

Lightning Conductors, SIGNAL

THE PATENT OFFICE AND DESIGNS REGISTRY,
No. 210, STRAND, LONDON.

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION OF INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patients, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

SEWERAGE OF LONDON.—The ATTENTION of the COMMISSIONERS appointed to determine upon the MOST EFFICIENT MATERIAL for the CONSTRUCTION of the SEWERS OF LONDON, is particularly directed to the ASPHALTE of SEYSEL, which more than any other material is applicable to the CONSTRUCTING and INTERNAL COATING of BRICK CULVERTS and OTHER CHANNELS for DRAINAGE.

The experiments made by the Royal Artillery on the embrasures of Plymouth Citadel, constructed of Seysel Asphaltic Brickwork, under the orders of the Hon. Board of Ordnance, have fully proved the superiority, adhesiveness, and strength of Seysel Asphalt over all other cementitious compositions. A printed account of these experiments can be had on application to

1. FARRELL, Secretary,

Seysel Asphalt Company—“Clarke’s Patent.”—Established 1838.

Note.—The application of the Asphalt of Seysel is specially recommended by the Commissioners on the Fine Arts for covering the ground line of brickwork in marshy situations, and it has been suggested that it would be peculiarly appropriate for covering the areas of closed grave yards, and for the construction of catacombs.

Under the PATRONAGE of ROYALTY, and the AUTHORITY of the FACULTY.

K EATING’S COUGH LOZENGES.—Upwards of 40 years’ experience has fully confirmed the superior reputation of these LOZENGES, in the cure of Asthma, Winter Cough, Hoarseness, Shortness of Breath, and other pulmonary maladies. They have deservedly obtained the high patronage of their Majesties the King of Prussia, and the King of Hanover; very many also of the Nobility and Clergy, and of the Public generally, use them, under the recommendation of some of the most eminent of the Faculty. They have immediate influence over the following cases:—Asthmatic and Consumptive Complaints, Coughs, Shortness of Breath, Hoarseness, &c.

Prepared and sold in boxes, 1s. 1½d., and tins, 2s. 9d., 4s. 6d., and 10s. 6d. each, by Thomas Keating, chemist, &c., No. 79, St. Paul’s Churchyard, London, and retail by all druggists and patent medicine vendors in the kingdom.

IMPORTANT TESTIMONIAL.

Copy of a Letter from Colonel Hawker (the well known Author on “Guns and Shooting.”)

Longparish House, near Whitchurch, Hants, October 21, 1846.

Sir,—I cannot resist informing you of the extraordinary effect that I have experienced by taking only a few of your lozenges. I had a cough for several weeks, that defied all that had been prescribed for me, and yet I got completely rid of it by taking about half a small box of your lozenges, which I find are the only ones that relieve the cough without deranging the stomach or digestive organs.

I am, Sir, your humble servant,

P. HAWKER.

C HOLERA AND BOWEL COMPLAINTS.—Thousands have been saved by Dr. MACANN’S GRAND ELIXIR and TINCTURE. It was successfully prescribed by the late Dr. Macann, when the cholera raged at Bistlon, in 1832, and has affected more cases in 1849 than all other medicines. One dose is generally sufficient to stop vomiting, purging, cramp, &c., and every family should have a supply in the house ready. The Grand Elixir is sold in bottles, 2s. 9d. and 1s. each, and the Tincture in bottles, 1s. 1½d. each, duty included.—Prepared only by THOMAS WHITE, chemist, Bistlon, and sold by him, and by Barclay and Sons, 95, Farrington-street; Drew, Heyward, and Barron, Bush-lane; Hannay and Dierichsen, 63, Oxford-street, London.—Wholesale and shipping agent, Mr. Wm. Bailey, Wolverhampton.—Beware of counterfeit preparations, and see that the Government stamp on each bottle has the signature of “T. White,” as none else is genuine.

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.

Just published, the fourth thousand, an improved edition, revised and corrected, 120 pages, price 2s., in a sealed envelope, or forwarded, post-paid, by the Author, to any address, secure from observation, for 2s. 6d., in postage stamps, illustrated with numerous anatomical coloured engravings, &c.

M ANHOOD : THE CAUSES of its PREMATURE DECLINE, with plain directions for its perfect restoration. A Medical Essay on those diseases of the Generative Organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in youth, manhood, and old age; with practical remarks on marriage, the treatment and cure of nervous and mental debility, impotency, syphilis, and other urine genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.—By J. L. CURTIS, consulting surgeon, 15, Albermarle-street, Piccadilly, London.

REVIEWS OF THE WORK.

We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, preceptor, or a clergyman.—*See, Evening Paper.*

J. L. Curtis, *On Manhood, and the Causes of its Premature Decline; with Plain Directions for its Perfect Restoration.* [Strange, Paternoster-row.]—This is a book replete with valuable advice and information. It develops the fearful shouls on which a large proportion of human happiness is wrecked, and furnishes a chart by which you put into practice the philanthropic and patriotic maxims laid down by the great experimentalists, those who banished from our land, and the race of the savages to be succeeded by a renewal of the hirid vigorous spirits of the older time. *United Kingdom Magazine.*

M anhood: by J. L. Curtis and Co.—Their long experience and reputation in the treatment of these painful diseases is the patient’s guarantee, and well deserves for the work its immense circulation.—*Era.*

M anhood: a medical work.—To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions—whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health.—*Chronicle.*

Published by the author, and may be had at his residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Howell, 16, Church-street, Liverpool; Robinson, 11, Greenlane-street, Edinburgh; Campbell, chemist, 146, Argyle-street, Glasgow; Berry and Co., Capel-street, Dublin; and by all booksellers.

THIRTY-FIRST EDITION.

Illustrated by 26 Anatomical Coloured Engravings on Steel, On Physical Disqualifications, Generative Incapacity, and Impediments to Marriage. New Edition, enlarged to 196 pages.—Just published, price 2s. 6d., or by post, direct from the establishment, 3s. 6d. in postage stamps.

T HE SILENT FRIEND : a medical work, on the infirmities and decay of the generative system, from excessive indulgence, infection, and the inordinate use of mercury, with remarks on marriage, and the means of obviating certain disqualifications, illustrated by 26 coloured engravings. By R. & L. PERRY & Co., consulting surgeons, 19, Berners-street, Oxford-street, London. Published by the authors; sold by Strange, 21, Paternoster-row; Hannay, 63, and Sanger, 150, Oxford-street; Stare, 23, Titchborne-street, Haymarket; and Gordon, 146, Leadenhall-street.

P ART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—**P ART THE SECOND** treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity: it is illustrated by three explanatory engravings.—**P ART THE THIRD** treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. This section is illustrated by 17 coloured engravings.—**P ART THE FOURTH** contains a prescription for the prevention of disease by a simple application, by which the danger of infection is obviated. This important part of the work should not escape the reader’s notice.—**P ART THE FIFTH** is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

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BY SAMUEL LA’MEET, M.D., 37, BEDFORD-SQUARE, LONDON.

Doctor of Medicine, Matriculated Member of the University of Edinburgh, Licentiates of Apothecaries’ Hall, London, Honorary Member of the London Hospital Medical Society, &c.

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Transactions of Scientific Bodies.

MEETINGS DURING THE PREVING WEEK.

THIS DAY.	Atmos.—8, New Burlington-street.	2 P.M.
MUNDAY	Statistical—12, St. James’s-square.	8 P.M.
	British Architects—16, Grosvenor-street.	8 P.M.
	Chemical—142, Strand.	8 P.M.
	Medical—3, Bolt-court, Fleet-street.	8 P.M.
	Pathological—21, Regent-street, Waterloo-place.	8 P.M.
TUESDAY	Linnæan—Soho-square.	8 P.M.
	Civil Engineers—21, Great George-street.	8 P.M.
WEDNESDAY	Society of Arts—Adelphi.	8 P.M.
	Geological—Somerset House.	8 P.M.
THURSDAY	Royal—Somerset-house.	8 P.M.
	Ashmolean—Somerset-house.	8 P.M.
	Royal Society of Literature—4, St. Martin’s-lane.	8 P.M.
	Numeristic—41, Tavistock-street, Covent-garden.	8 P.M.
	Philological—London Library, 19, St. James’s-square.	8 P.M.
FRIDAY	Royal Botanic—Inner Circle, Regent’s Park.	3 P.M.
SATURDAY	Westminster Medical—17, Saville-row.	8 P.M.

INSTITUTION OF CIVIL ENGINEERS.

NOVEMBER 13.—JOSHUA FIELD, Esq., (President,) in the Chair.

The paper read was a “Description of the Cofferdam at the Grimsby Docks,” by Mr. Charles Neate, Assoc. Inst. C.E. It commenced by briefly noticing the importance of preliminary structures in all works of Hydraulic Engineering, and the difficulties generally attending their execution. The position of Grimsby, on the south shore of the Humber, was then described; its proximity to the sea, the natural shelter afforded by the opposite shore of Spurn Head, and the various advantages it presented for the construction of extensive docks.

A general description followed of the enclosure made for the purpose of the dock-works, which comprised an area of 138 acres, and projected five-eighths of a mile beyond the margin of the high-water line of the shore. It was explained that the flatness of the coast necessitated this great projection, as it was requisite to found the new entrance locks in the low-water channel of the river, in order to secure, at all times, a sufficient depth of water for large vessels. These conditions regulated the position of the coffer-dam, which stood in a very exposed situation, and was entirely self-supported; its principal features were stated to be its extent, and the form of its construction. The length of the coffer-dam was 1500 feet, supporting at high-water a head of water of 25 feet, whilst the excavation behind it was carried to 11 feet below low-water. The form of the dam was that of a circular curve, with a versed sine of 200 feet, or nearly one-fifth of the span. Several of the constructive arrangements were peculiar; the work consisted of a triple row of whole timber sheet piling, which derived interior support from counterforts or buttresses of solid sheet piling, driven at intervals of 25 feet throughout the length. The long or through-bolts were made to break joint and terminate at the middle row of piling, so that no water could pass along them through the dam. In the middle row of piling, wrought-iron plating was substituted for timber walings, which formed excellent longitudinal ties, and an uninterrupted surface on the piling, against which the paddle would lie compactly. It was stated that these arrangements had imparted an extraordinary degree of stability and tightness to the structure, which had resisted the effects of storms, and the pressure of the tides, in the most perfect manner, during a period of 14 months.

A portion of the ground between the works and the shore was described as being of a soft silty clay, probably the site of an old channel; and as it was found, after all precautions, impossible to raise any solid structure upon it, the alternative was adopted of displacing it completely, by raising a bank of chalk-stone rubble, which sunk down to the hard bed of clay beneath. This method was successful in forming a very fine embankment. The abundant supply of water from Artesian wells in Grimsby was adverted to, and referred to the vicinity of the chalk hills.

The conclusion of the paper drew attention to the magnitude of the masonry works now advancing at Grimsby, and for the formation of which the coffer-dam was erected, and which, when completed, from the designs of Mr. Rendel, the chief engineer, and under the superintendence of Mr. Adam Smith, the resident engineer, will form, perhaps, one of the most useful, as well as the most important, maritime works of modern times.

The paper announced to be read at the meeting of Tuesday, November the 20th, was “A Description of the Old Southend Pier Head, and the extension of the Pier, with an inquiry into the nature and ravages of the Teredo Navalis,” and the means hitherto adopted for preventing its attacks,” by Mr. John Paton.

F RANKLIN COXWORTHY’S DISCOVERIES IN NATURAL PHILOSOPHY.—No. X.

We now proceed to apply the illustration given in our last to the old doctrine of the expansion of matter during the absorption of heat, and its contraction whilst heat is evolved. On its passage through the ignited fuel the air is decomposed; the oxygen is converted into carbonic acid, and the nitrogen is evolved; the two gases occupying together a considerably greater space than they did before. They have, therefore, become, by expansion, absorbents of heat, and should, consequently, impart cold to the matter by which they are surrounded. But, on applying heat to frozen water, we find that the ice is first dissolved—the water then increases in volume, instead of contracting—and, ultimately, steam is produced with a vast extension of the space occupied.

Here, then, we have evidence diametrically opposed to the existing doctrine of the entity, or individual existence of heat, or calorific. And the action of fire on solid matter, is not less instructive. If a piece of metal be held in a flame, it becomes first warm, then “red hot,” and at length is raised to a white heat; the amount of expansion corresponding with the increment of heat yielded by the flame, itself an *expanding body*. If, however, we regard the flame as matter in a highly negative state, and hence abstracting from the metal the electricity which holds its particles together, the conclusion is inevitable, that the metal must expand in proportion to the quantity of electricity withdrawn from it. And, if the negative state of the flame be rendered sufficiently intense entirely to overcome the electrical affinity, or bond in matter, between the particles of which the mass is composed, to disintegrate, to decrystallize the metal, like ice, it will first pass into a fluid state, and ultimately assume the gaseous form!

Inductive reasoning, infinitely more simple than that which has hitherto fallaciously sustained the old doctrine, is thus in all honesty applied to its subversion. That doctrine had, as we have previously remarked, nothing to support it but those hasty assumptions which were mistaken for reasons. Nothing in the way of practical experiment could possibly demonstrate it. It was too illusive to be illustrated. Indeed, any attempt at scientific elucidation could only terminate in the dissipation of what it would be intended to establish. On the other hand, the proposition logically submitted by Franklin Coxworthy, is chemically proved by

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what, then, is the duty of those to whom the public look for instructive conclusions from data thus freely afforded? We essay to perform our portion of it. We make the denial of what has been deemed to be established on a truthful basis, patent to our readers; to that denial we add appreciable argument; and that argument we prove to be correct, by the undeniable processes of Nature herself. Let those who assume the designation or permit themselves to be called philosophers, or men of science, fulfil their functions. Have they the truth on their side? Where are the proofs? Is it on ours? Who is he, who are they, to whom truth should be the prevailing aim, the only useful attainment of investigation, and yet will not surrender their prejudices or misconceptions to her sacred summons? If they are right, they owe it to society to put down Franklin Coxworthy, as a vain pretender, not by sneers, nor generalities, nor assumptions, nor assertions; but by patient examination, minute development, reasoning upon proved premises, and demonstrating by unmistakable results. And if they are wrong, we thrust aside from before them the flimsy veil on which is inscribed, “Where ignorance is bliss ‘tis folly to be wise;” and bringing them, thus, face to face, with their single opponent and his array of facts, cite them to controversy or confession, by reminding them that they can no longer remain in the beatitude of ignorance, nor longer be allowed to commit a wrong upon the present generation in the semblance of satisfied wisdom. We hope, in our next, to pluck another flower from the coronal of their folly.—S. Cheltenham Journal.

WATERFORD, WEXFORD, WICKLOW, AND DUBLIN RAILWAY.—The directors of this company intend to apply to Parliament for authority to shorten the line and reduce the nominal amount of the shares. It appears the dissentient shareholders intend to oppose the measure, and seek a dissolution of the company. The shareholders’ committee, assisted by Mr. C. Nash, have been allowed to plead

THE IRON-WORKS OF SUSSEX.

The following notice of the Iron-works of Sussex, by Mr. M. A. Lower,* is both valuable and interesting. The author adduces evidence to justify the belief that iron-works were established in Sussex in the time of the Romans—and probably before they set foot in the island; and he thinks it not improbable that the trade may hereafter be revived by the introduction of anthracite fuel. The earliest actual record of the iron trade in Sussex is believed to be the murage grant of 1266, made by Henry III. to the town of Lewes, which empowers the inhabitants to raise tolls for the repair of the town walls:—"From that period we have data, however slight, for the history of the manufacture. In 1290 a payment was made for the iron-work of the monument of Henry III. in Westminster Abbey, to Master Henry, of Lewes. ** In 7th Edward I., iron appears to have been smelted on St. Leonard's Forest, and the works were afterwards carried on by the Crown. In 1300, according to Stow, the ferrones, or iron-mongers of London, made complaint to Elia Russell, mayor of London, that the smiths of the wealds (*fabi de waldis*) brought in irons for wheels which were much shorter than they ought, according to custom, to be, to the great scandal and loss of the whole trade of iron-mongers; and required a remedy, which was accordingly granted. From some incidental notices occurring about this period, it appears that the iron manufactured near the Sussex coast was conveyed to London by water—a proof of the impassable state of the roads in those days. In the 13th year of Edward II., Peter de Walsham, sheriff of Surrey and Sussex, by virtue of a precept from the king's exchequer, made a provision of horse-shoes, and nails of different sorts (*providencias de ferris equorum et clavis pro eisdem diversimode fabricae*), for the expedition against the Scots. The number furnished on the occasion was 3000 horse-shoes and 29,000 nails, and the expense of their purchase, from various places within the sheriff's jurisdiction, and their delivery in London, by the hands of John de Norton, clerk, was 14*l.* 13*s.* 10*d.* The sum return for the parish of Lynch, in Western Sussex, proves the existence of the iron trade there in 1342. It also affords an early instance of metals being subject to tithes: 'Item, decima ferri ecclesiae predictae valet per annum decem solidi.' The rector likewise received ten shillings for the tithe of iron ore."

The manufacture is supposed to have increased during the fifteenth century; though Mr. Lower observes, this supposition is based more on the flourishing state in which we find the trade in the early part of the sixteenth century than on documentary evidence:—"There is little doubt that ordnance was made in this county in the fifteenth century. It is believed that some of the old hasted guns of wrought-iron, preserved in the Tower of London and elsewhere, and dating so far back as the reign of Henry VI., were of Sussex manufacture. In the tenth volume of the *Archæologia*, is an engraving from a drawing by James Lambert, jun., of a mortar, formerly at Eridge Green, in the parish of Frant, and the account given of it is as follows:—'It has always been understood that this mortar was the first that was made in England. [It] now lies at Eridge Green, and has served for many years for the amusement of the people on a holiday or fair day, when they collect money to buy gunpowder to throw the shell into the earth, that it costs no little pains to dig it out after each discharge, which is repeated as long as the money lasts. The chamber of the gun is cast-iron, the other part, as evident, wrought.' From the engraving, the chamber appears to have been polygonal, and the tube to have consisted of many small bars or rods, bound together by nine hoops. This was the original method of constructing these tremendous engines of war.

"These hooped guns were at length superseded by cannons cast in an entire piece, and bored, as at the present day. The invention of gun-founding is ascribed to the French, who appear to have used cast pieces many years before the introduction of the art into this country. The first iron cannons cast in England were manufactured at Buxted, in this county, by Ralph Hoge, or Hogge, in 1543 (35 Henry VIII.). This founder employed, as his assistant, Peter Baude, a Frenchman, whom he had probably brought over to teach him the improved method; and Peter Van Collet, a Flemish gunsmith, about the same time, devised and cast mortar pieces from 11 to 19 inches bore; for the use whereof they caused to be made bombs, or certain hollow shot, of cast-iron, to be stuffed with fire-works, &c. And after the king's return from Bullen, the said Peter Baude, by himself, in 1 Edward VI., made ordnance of cast-iron, of divers sorts, as fawcets, fawcons, minions, sakers, and other pieces."

"The manufacture of heavy ordnance gave a great impulse to the iron trade. Many foreigners were brought over here to carry on the works. This, perhaps, may account for the number of Frenchmen and Germans whose names appear in our parish registers about the middle of the sixteenth century. New works were established, and ultimately almost every landed proprietor in the districts where the ore was found became an iron-master. Among the persons engaged in the trade at this period was Richard Woodman, one of the ten Protestant martyrs burnt at Lewes, in 1557. He was native of Buxted, where he probably learned the business. At the time of his apprehension, at the beginning of Queen Mary's reign, he resided at Warbleton, and carried on an extensive trade. In one of his examinations before the Bishop of Winchester, he says, 'Let me go home, I pray you, to my wife and children, to see them kept, and other poor folk that I would set awoke, by the helpe of God. I have set awoke a hundredth persons, ere this, all the yere together. Several Sussex families, enriched by the iron manufacture, assumed the rank of gentry about this time. This rapid growth of the trade in the wealds of Sussex and Kent was viewed with disfavour by many. Archbishop Parker, writing to Queen Elizabeth, in 1570, says, 'Sir Richard Sackville intends, as I was credibly informed, in this wood (Longleach Wood, in Westwell, Kent) to erect up certain iron mills, which plague, if it shall come into the country, I fear it will breed much grudge and desolation.' About 1572 much ordnance was exported, in consequence of the Lord Admiral having granted a license for that purpose to Sir Thomas Leighton, who had made use of one Garret Smith to obtain it of the admiral, and who was, in return for his intervention, to enjoy the deputyship, with a fourth part of the profits; but the merchants of London, knowing how this might furnish the enemies' ships to obstruct their trade, and bring other great damages upon the queen and her subjects, petitioned her, in a great body, to withdraw this license. The petition was not presented ('whether it were shuffled off by some about the queen'); however, they petitioned again, and in Sept. 1572, a proclamation strictly restrained all transport of iron and brass ordnance, and forbade the owners of all iron-works, furnaces, or forges, to make any kind of ordnance larger than a minion. In defiance of these measures, however, the surreptitious exportation of Sussex cannon went on for some years longer. In 1587, the Earl of Warwick, master of the ordnance, dispatched a gentleman of his, one Mr. Blincoe, into Sussex, to summon all the gun-founders of the county up to London, to understand his pleasure respecting their further continuance of the manufacture. Henry Nevel, and the rest of that occupation, obeyed the summons, and the matter was referred to the arrangement of Mr. Hocken, the deputy-master of the ordnance, and Mr. Blincoe. The result was, that a fixed quantity of cannon should be cast annually, for the necessary provision of our own navigation; a certain proportion being allowed to each founder. It was also stipulated that no ordnance should be sold except in the city, and not even there but to such merchants 'as my lord or his deputy should name.' The bonds into which the iron-masters entered on this occasion seem to have been little regarded by them; for, on August 8, 1589, Thomas Lord Buckhurst wrote a letter to the justices of Lewes Rape, complaining of their neglect. 'Their lordships do see the little regard the owners of furnaces and the makers of these pieces have of their bonds, and how yt importeth the state that the enemy of her majesty should not be furnished out of the lande with ordnance to annoye us.' The lord-treasurer goes on to direct the magistrates to enforce the provisions of the master of the ordnance. Another letter, from the same officer to the justices of the three eastern rapes, dated 6th October, 1590, directs them as to 'straighter restraint of making shott and ordnance,' and to take bonds of 100*l.* each of every furnace-owner and farmer; and also to forward their bonds, and a list of names, to him with all convenient speed. The great extent which the manufacture had now reached, threatened an evil which had to be ward off by legislative enactments—I mean the annihilation of timber in the weald. Up to a certain period the destruction of trees and underwood had been beneficial in clearing the land for agricultural purposes; but so early as the reign of Henry VIII. (1543), it became necessary to enact—that no wood shall be converted into pasture—that in cutting coppice woods at twenty-four years' growth, or under, there shall be left standing and unfelled, for every acre, twelve staddle or stores of oak, or in default of so many, then of elm, ash, asp, or beech—and that if the coppice be under fourteen years'

growth, it shall be inclosed from cattle for six years; provided always, &c., that this act do not extend or be prejudicial to any of the lords or owners of the woods, underwoods, or woodlands growing or being within any of the towns, parishes, or places commonly called or known to be *within the Wilds* of the counties of Kent, Surrey and Sussex, other than to the common woods growing and being within any of the said Wilds, &c. A series of enactments of similar character succeeded. The Act 1 Elizabeth, cap. 15, provides that no person shall convert into coal or other fuel for the making of iron, 'any timber trees of oak, beech, or ash of the breadth of one foot square at the stub,' within fourteen miles of the sea, or the River Thames, Severn, &c., or any other navigable river. The county of Sussex, the *wilds* of Kent, and the parishes of Charlewood, Newdigate, and Leigh, in the *wilds* of Surrey, were, however, excepted from the operation of this Act. The Act of 23 Elizabeth, cap. 5 (1581), declares that 'by reason of the late erection of sundry iron-mills in divers places,' near London, and 'not far distant from the Downs and sea-coasts of Sussex,' decay of timber hath ensued; and forbids, therefore, the converting to coal or other fuel, for the making of iron-metal in any iron-mill, furnace or hammer, 'any wood within twenty-two miles of London, or within four miles of the foot of the hills called the Downs, betwixt Arundel and Pemsey, or within four miles of the towns of Winchelsea and Rye, or within two miles of the Woods of Christopher Darrell, gentleman, at Newdigate, in Surrey, are exempted from the force of this enactment, on the ground of their having been preserved and coppiced for the especial use of his iron-works in those parts. The Act 27 Elizabeth, cap. 19 (1585), rehearses 'Whereas by the over great negligence or number of iron-works which have been, and yet are, in the *wilds* of Sussex, Surrey, and Kent, it is thought that the great plenty of timber which hath grown in those parts hath been greatly decayed and spoiled, and will in short time be utterly consumed and wasted, if some convenient remedy be not timely provided,' and therefore forbids the erection of any new iron-works, furnace, finery, or blomery, for the making or working of any manner of iron or iron-metal, except upon ancient sites." What picture of flashing mills, and roaring furnaces, and that most Tartarian of all noises, iron hammers beating on iron—filling, as Camden says, the neighbourhood round about "night and day with continued noise!"—So Drayton:

These forests, as I say, the daughters of the Weald,
(That in their heavy bays had long their griots concealed)
Foreseeing their decay each hour so fast come on.
Under the axe's stroke fetched many a grievous groan,
Even rent the hollow woods and shook the quæchy ground;
So that the trembling nymphs opprest'd through glisty fear,
Ran madring to the Downs with loose dishevel'd hair.
The Sylvans that about the neighbouring woods did dwell
Both in the tufty frith and in the mossy fell,
Forsok their gloomy bowers, and wander far abroad,
Expell'd their quiet seats, and place of their abode,
When labouring carts they saw to hold their daily trade,
When they in summer wot to sport them in the shade,
Could we, say they, suppose that any would us cherish,
Which suffer (every day) the hottest things to perish?
Or to our daily want to minister supply?

These Iron Times breed none, that mind posterity.
Who that knows anything of the delicious quiet of that beautiful Weald
—who that has

sat recline
On its soft downy banks damask'd with flowers,
Or under the shadow of its 'melancholy boughs'
—the only sound

Of leaves and fuming rills—

can believe in this mad Pandemonium of the past?

Of course, and in spite of these legislative follies, the trade and "the waste," if it deserves to be so called, went on, regulating itself by natural laws, until, in the seventeenth century, there were 140 hammers and furnaces in Sussex. "The greatest existing remains of Sussex iron are the balustrades which surround St. Paul's cathedral. They were cast at Lambeth furnace, and their weight, including the seven gates, is above 200 tons. Their cost, according to the account-books kept at the furnace, was 11,202*l.* 0*s.* 6*d.*"

We are indebted to the iron manufacturers for those fine sheets of water which still add beauty to the Weald. "A great deal of meadow ground," says Camden, "is turned into ponds and pools for the driving of the mills;" and many of them still remain—though the "hammers" are often occupied by corn-mills. Some have been drained, and are now used as hop-gardens and osier-beds.

On the decline and fall of the trade, Mr. Lower observes:—"The amazing consumption of wood rendered the production of iron in this district more expensive than in those localities where the coal mines and the ferruginous strata are in close proximity to each other. Upon Sir Roderick Murchison's authority, our wealds still contain a much greater quantity of iron-ore, and that of richer quality, than many of the coal fields of England; but for the reason alluded to, competition with those districts was hopeless. In spite, however, of the invention of 'charking' sea-coal, alluded to as a desideratum by Fuller, Sussex still maintained its position as a seat of the iron-trade long after the establishment of that process. Even in the days of our grandfathers, cannon continued to be cast in some places, and the great hammer's 'occupation' was not wholly gone." By degrees, however, the glare of the furnace faded, the din of the hammer was hushed, the last blast was blown, and the wood-nymphs, after a long exile, returned in peace to their beloved retreats! Farnhurst, in Western, and Ashburnham, in Eastern Sussex, witnessed the total extinction of the manufacture.

Sussex is just now the high aristocratic anti-manufacturing district; and to hear its orators at their local triumphs one would suppose that they were all autochthonous—earthborn—and that no Sussex man had ever defiled his fingers with anything less dirty than mere dirt. Yet the greater part of the noble and the gentle—we mean, of course, such as had great-grandfathers—are all more or less indebted to the iron-trade—grew into wealth and importance in that iron age. Neville and Ashburnham are amongst the earliest and the latest names associated with it. The Burghills (Willoughby de Eresby) had large works at Cuckfield. The Morleys of Glynde—the regicide, at least—had works at Hawkesden; the Fullers, of Rose Hill, at Brightling, and Heathfield, and Waldron. It is, indeed, a wealth of the county that the founder of the Sussex family gained his wealth by hawking nails about it upon the backs of donkeys—a tradition, the truth of which Mr. Lower denies, but does not disprove. With a notice of the fates and fortunes, the rise and fall of some other families, we shall conclude:

"At Riverhall, in Faircrouch quarter, there were a furnace and a forge worked by the Fowles, a family of considerable note, whose prosperity rose and fell with the iron manufacture. Nicholas Fowle, who carried on these works, built, in 1591, the fine mansion of Riverhall, which still exhibits traces of its former grandeur. His son, William Fowle, had a grant of free warren from King James, over his numerous manors and lands in Wadhurst, Frant, Rotherfield, and Mayfield. The fourth in descent, and heir male of this personage, left Riverhall, and kept the turnpike-gate in Wadhurst. His grandson, Nicholas Fowle, a day-labourer, emigrated to America, in 1639, with his son, John Fowle, a wheelwright, and a numerous young family, carrying with them as a family relic the royal grant of free-warren, given to their ancestor. Brookland Forge, and Ferredge Forge, on the borders of Frant, at or near Bartley Mill, or Little Shoemsmiths, were worked by the Barhams of Butts and Shoemsmiths. John Barham of Butts, in Wadhurst, second son of a younger son of Henry Barham, Esq., lord of Barham, &c., county Kent, a descendant (according to the Kentish historian and genealogist Philipot) from Robert de Barham, son of Richard Fitz-Urs, and brother of the murderer of Thomas à Becket, was the founder of several branches of the Barhams inhabiting the mansions of Great Butts and Shoemsmiths; the former of which has disappeared, and been replaced by a miserable little house. His descendant, John Barham, resided there till about 1713, when he sold the remnants of his paternal inheritance. He died in obscurity, in 1732, aged 75. John Barham, grandson of the above-named John Barham, of Great Butts, erected, or rebuilt, about 1630, the beautifully situated and spacious mansion of Shoemsmiths, and worked Bartley Mill and Brookland Forges. His grandson was high-sheriff of the county 14 William III., but, at his decease, his family fell into obscurity. Scragoak works were formerly carried on by the Mansers, and afterwards by the Barhams; and Snape Furnace, the property of the Barhams, was worked by the Culpeper family about the middle of the 17th century. David Barham built the greater portion of the present house at Snape, about 1617. He died in 1643, and is interred

in the south aisle of Wadhurst Church, beneath an iron slab of very curious workmanship. This estate afterwards passed to the Barhams of Scragoak, who worked the furnace there, and this line of the Barhams terminated with Nicholas Barham, who died in the workhouse, in 1778, aged 82. The representative of these once distinguished families, now resident in Wadhurst, is Nicholas Barham, wheelwright."

How forcibly do such records as the above bring before us the moral of mutation—with its legend, "Passing away!"

The Metallurgical Treatment of Ores.

By JOHN MITCHELL, Esq., F.C.S., author of *A Manual of Practical Assaying, &c. &c.*
No. XXXV.—[Continued from November 10.]

Extraction of Iron in the Ordinary Iron-Furnace.—The blast-furnace internally is formed of two cones, joined at the base. The upper cone, or the body, or internal cavity of the furnace, is formed by a lining of firebricks of the most refractory kind—outside of which is a layer of broken cinder, or slag, and then again a second lining; after which comes the outer wall, either of brick or stone. Above this is a kind of chimney, pierced with lateral holes, by which the charging of the furnace is effected. The lower cone, termed the tymp, and the upper stone of which is termed the tymp-stone; and a plate of metal, the tymp-plate, is wedged firmly to it, in order to prevent fracture by the great heat; below this is the dam-stone, also protected on the outer face by a strong iron-plate, called the dam-plate; this stone occupies the whole bottom of the hearth, with the exception of about 6 in., which, every cast, is filled with a refractory binding sand. The bottom of the hearth, or crucible, is formed of quartzose stone, millstone grit; below which are openings, to allow a free circulation of air under the furnace, so that no water may accumulate, and be the cause of, perhaps, very serious accidents. The whole building is erected on vaulted galleries. Above the hearth, and about at the level of the tymp-plate, are pierced generally three holes for the admission of tuyères. The tuyères are generally conical tubes, with a double envelope of iron or copper; and as they might fuse at the extremity, owing to the high temperature to which they are exposed, a current of cold water is made to circulate through the envelope. To give any detailed account of the blast-furnace, or any of the other furnaces employed in the production of iron, would here occupy too much space—the intention merely being to give a general outline of such points as may be considered necessary, and of the operation of reduction altogether. It rarely happens that mine can be fused in the blast-furnace without the addition of some foreign substance. It has already been mentioned that the gangue is generally clay or quartzose matter—both very infusible substances; and it is absolutely necessary that both gangue and metal be rendered perfectly fluid, so that they may separate in the hearth, when in the course of working they arrive there. It is also necessary to extract the largest possible quantity of iron; and, if the gangue of the mine be quartzose, this can only be effected by the formation of a silicate, fusible at the temperature of the blast-furnace. If no foreign base be added, the quartz combines with a portion of oxide of iron, which is then prevented from being reduced, and forms a fusible slag, as in the Catalan method; but then, as already shown, a considerable quantity of iron passes into the slag and is lost. In the other case, supposing the gangue to be clay, an analogous circumstance presents itself. The silicate of alumina is nearly infusible in the furnace, and could only become liquid by combining with a certain portion of oxide of iron, forming a tolerably fusible double silicate of oxide of iron and alumina; but if a suitable quantity of carbonate of lime be added, it becomes caustic in the body of the furnace; and the lime so liberated combines with the silicate of alumina, to form a fusible double silicate of alumina and lime; and this silicate contains so much base that it does not take up oxide of iron; so that the latter is in a perfectly free state for reduction. When the ore contains only quartz, it is necessary to add both clay and carbonate of lime, generally added as marl; but as lime, with an argillaceous matrix, is more common than with a quartzose, the latter are always mixed with the former, when practicable; so that limestone is the only flux added. In some cases the gangue is calcareous, then silicate of alumina must be added, in the shape of clay, or argillaceous ores must be worked with the calcareous. The fusibility of the double silicate of alumina and lime varies with the proportions of the constituents. Experiment has shown that the most fusible silicate or alumina and lime exists when the oxygen in the silicic acid is double that contained in the two bases together. The fuel generally employed in blast-furnaces is either coke or charcoal. The latter fuel leaves very little ash; this ash is also very easily fusible, and gives to the produced metal but little in the way of injurious constituents. In charcoal furnaces, the most fusible slag, containing the smallest amount of iron, is sought to be obtained. The composition of these slags corresponds very nearly to that above quoted. Coke, on the other hand, generally gives considerable quantities of ash; besides which, it contains pyritous matter—sometimes a large amount. These pyrites furnish sulphur to the metal produced, and alter its qualities in a very marked manner. The nature of this alteration has been shown in former papers. The most fusible slag cannot, however, be advantageously obtained in a blast-furnace fed with coke, because a slag having such a composition would allow the largest possible quantity of sulphur to enter into the composition of the metal. Experience, however, has shown that this inconvenience may be in part avoided by considerably increasing the proportion of limestone added, and seeking to obtain a silicate of such a composition, that the oxygen of the silicic acid may only equal that of the bases. The larger quantity of lime thus prevents much of the sulphur entering into the composition of the iron, by forming sulphur of calcium, which remains in the slag; so that the slag of a coke furnace in good working order must necessarily be more infusible than that of a charcoal furnace in like condition; hence another reason why the temperature in a coke furnace is always higher, in order that the slag may require a sufficient fluidity.

I have now given as much space to the consideration of the materials and products of the blast-furnace as the limit of these papers will allow, with the exception of the atmospheric air so largely used. This I will briefly notice before passing on to the conclusion of the metallurgy of iron, merely advertizing to the difference in the re-actions, or rather the amounts of re-action, in the use of hot and cold air. Cold air thrown into the blast-furnace absorbs a very considerable proportion of the heat developed, just above the tuyère, in order to raise the admitted air to the temperature existing there. It can be, therefore, readily conceived, that if the air, before admission to the burning materials in the furnace, were heated to the temperature of 400 deg. or 600 deg., that a very much less amount of heat would be absorbed by it to raise it to the neighbouring temperature; and substances which are difficult of fusion in a furnace fed with cold air, may be rendered readily fusible, or, at all events, possessing a suitable fluidity in a like furnace, by the substitution of hot air. So a difficultly combustible fuel burns more readily, because the combustibility of carbon is in proportion to the temperature to which it is heated; so that by the employment of hot air more refractory substances may be fused, and denser fuels may be employed, which would burn but imperfectly by the cold-blast. When a furnace urged by hot-blast is fed with lime, &c., which works well in a cold-blast, the amount of fuel is very considerably diminished, and by careful management the work proceeds as well; but it is important to remark, that the substitution of hot for cold air considerably modifies the reactions which take place in the different parts of the apparatus. The carbon is present in smaller quantity; it is, moreover, more readily combustible. The quantity of air introduced being in proportion to the carbon burned, the weight of gas which traverses the furnace during the passage of the hot air, is less in proportion to the weight of the ore and limestone than in the passage of cold air. Supposing the temperature of the hearth to be the same in both cases, there would be in the middle and upper part of the furnace less heat than in a furnace fed with cold air. The fuel being more combustible, the maximum space of temperature would be more restricted. These two causes determine important modifications in the nature of the chemical re-actions taking place in the various parts of the furnace, more especially before and just above the tuyères, and they also exercise a considerable influence on the quality of the metal; and it seems to be pretty certain that the management of a hot-blast furnace is more difficult than that of a cold-blast furnace; it requires greater attention, and the yield appears to be more variable in quality.

Conversion of Cast into Malleable Iron.—To effect the transformation of cast into malleable iron, it is necessary to remove the combined carbon and silicon; other changes are sought to be effected, as will be shown hereafter; but the carbon and silicon by their absence seem to more particularly mark the conversion. The metal is submitted to an oxidising action, by which the carbon is converted into carbonic acid, and the silicon into silicic acid. The latter acid combines with the bases formed as oxide of iron (more particularly), lime, alumina, &c., forming fusible silicates, which separate as slag. The iron generally contains small quantities of sulphur and phosphorus, which also separate during the operation, or at least in part. It is essential to get rid of as large a quantity of these substances as possible, for they have presence very materially deteriorate the quality of the bar metal produced, sometimes even rendering it unfit for use. It has already been pointed out in other papers in this series, that they induce the properties of hot and cold short in those samples in which they may happen to be found in any considerable amount. If malleable iron is to be manufactured, the blast-furnace is worked in such a manner that the metal produced is white iron. This is effected by charging with more lime than for grey metal, and by so arranging the blast, that the charge shall descend with such a rapidity that it shall not have time for conversion

into grey. The rapidity of the descent, however, must be managed in such a manner that the slag shall be as free as possible from oxide of iron, consistent with the nature of the metal wished to be produced. Very pure mine, however, must be employed in this operation, otherwise the result will be a most impure metal. The mine should be as free as possible from phosphoric and sulphurated compounds. When cast-iron is kept at a high temperature, in contact with atmospheric air, a layer of oxide of iron is formed on its surface. This oxide reacts on the interior layers of the metal; the carbon of the cast-iron reduces the layer of oxide, and is disengaged as oxide of carbon, which, being liberated, is converted into carbonic acid by the excess of air around the metal. The silicon effects a similar reduction, producing silicic acid, which combines with the undecomposed oxide of iron, forming a fusible silicate of iron. The composition of this silicate is variable, according to the rapidity of the formation of oxide of iron; but generally it has a composition expressed by the following formula:— $3\text{FeO} \cdot \text{SiO}_3$ —that is, a compound of one equivalent of siliconic acid with three equivalents of protoxide of iron. Sometimes, however, a more basic oxide is formed—as $5\text{FeO} \cdot \text{SiO}_3$. This, however, only happens if the cinder is conveyed out of the reach of any metallic cast-iron; for, when in contact with that substance, the carbon tends to decompose a portion of the excess of oxide forming the first-named silicate; so also, at a higher temperature, are less basic silicates liable to be formed; but as sometimes there is an excess of carbonaceous matter in the metal, and at other times an excess of oxide of iron, the general formula of the slag is as at first stated. Regarding the large quantity of silica present in the slag, it is not all produced by the oxidation of the silicon of the cast-iron; a portion of it is furnished by the sand adhering to the pigs of metal, and another from the ash of the fuel mechanically carried over. The above is a short sketch of the theory of the conversion of cast into malleable metal. There are two processes in use—in the one the iron is re-fused by means of charcoal; in the other, by coal.

[To be continued in next week's Mining Journal.]

THE BANWEN IRON COMPANY.

An action has been tried in the Court of Common Pleas, which had been brought by the Banwen Iron Company, incorporated under the 7th and 8th of Victoria, c. 110, against the defendant, a shareholder of the company, for calls amounting to £4000, due on his shares in the company. The defendant pleaded several pleas, and, amongst others, that the company was registered under the 7th and 8th of Victoria, c. 110, and that although a certificate of complete registration, which by the statute incorporated the company, had been granted, yet that the deed of the company did not fulfil the requirements of the statute, in properly setting out what the nature and business of the company required, or the maximum number of directors, the number of shareholders, or the amount of their interest, without stating which the certificate of incorporation had been improperly granted by the registrar under the statute; that the company was not duly incorporated, and that the plaintiffs could not sue the defendant. To this plea there was a special demurrer.

Mr. NEEDHAM, on Wednesday, appeared in support of the demurrer. He contended that the plea was no answer to the action, because the certificate of complete registration given by the registrar under the 25th section of the 7th and 8th of Victoria, c. 110, was a judicial, and not a ministerial act, and that that officer, having exercised his judgment on the deed when laid before him, had adjudged it to be sufficient; and thereupon had granted his certificate of complete registration, by which act the company was incorporated by the statute from the date of the certificate.

Mr. PEACOCK, in support of the plea, contended that the registrar under the statute was a ministerial officer, otherwise it would depend on the judgment of this officer whether or not any commercial company whatever should be incorporated; and, however erroneous his decision, and whether there were any means of punishing him for improper conduct in his office or not, the fact was the company had been improperly incorporated. The House of Commons had decided that Mr. F. O'Connor's National Land Company was an illegal project, and thereupon the registrar under this statute had refused to grant to that company a certificate of complete registration. If he were a judicial officer, as contended on the other side, that decision of his would be conclusive, but the Court of Queen's Bench had granted a *mandamus* to compel him to show cause why he refused to grant a certificate of complete registration, on which the requirements of the statute being complied with in the deed of the company, he was bound to grant. If his judgment were conclusive, and he improperly granted such a certificate, did a writ of *sicre facias* lie to repeat or quash the certificate, the granting of which incorporated the company? If the Queen were deceived in her grant, such a writ would issue to repeat it. It was giving to this officer greater power than was possessed by the Queen, to hold him to be a judicial officer in this case, and the appointment was not one calculated for such an enormous responsibility.

Mr. NEEDHAM having replied on Saturday, Mr. Justice MAULE, in giving judgment, after stating the issue in law raised by the pleadings, said it was contended by the counsel for the defendant that it was a condition precedent to the powers which the registrar had to grant a certificate which incorporated a company, that the deed should sufficiently and properly set forth what the nature of the company required, which condition had not been performed, and that, therefore, the certificate was void. The question was certainly a very important one, but, on the best consideration he could give to it, he was of opinion that the matter set forth in the plea was no answer to the action, and that the facts stated did not prevent the company acting as a corporation. The question turned mainly on the 7th section of the statute, which provided that it should not be lawful for any company to act otherwise than provisionally until the company was formed by a deed, in which deed a number of things, as to the requirements of the company, the number of shares, the amount of capital, &c., were to be inserted, after which a certificate of complete registration might be granted by the registrar, and without which it should not be lawful for him to grant such certificate. If there should be any defect in the deed, the 8th section of the Act provided that it might be remedied by a supplementary deed. Taking these two sections together, there seemed to be no doubt that the registrar was to make some inquiry, and to consider some conditions on a deed being presented to him to register, and if he found a defect in it, it might be remedied by supplementary deed under the 8th section. But it seemed to him that the registrar was not to look further than the face of the deed to inquire whether its provisions were consistent with or repugnant to the Act of 7 and 8 Victoria, or any subsequent Act. Probably the plea might be open to the objection that the deed ought to have been set out in it, that it might appear to the Court that the registrar had arrived at a wrong conclusion in law in granting the certificate. That was not, however, the question before them. The registrar had determined that the deed was sufficient, and had granted the certificate of complete registration which incorporated the company. If he were mistaken in that, the question was, what would be the effect of such a mistake? Would it avoid the right of the company to sue for these calls as a corporation? The 25th section was conclusive as to that, as it enacted that the granting by the registrar of a certificate of complete registration incorporated the company from the date of such certificate. It seemed to him that to hold the certificate not to have this effect would be pregnant with great inconvenience, and that a company would be a corporation for some time, then no corporation, and then a corporation again, as defects in the deed were found out and remedied by a supplementary deed. He thought it more in the spirit of the Act to hold that, until dissolved by some competent course, the company was incorporated, although the registrar might have been mistaken. A contrary construction would lead to much difficulty. He did not think the Court was called upon to say what should be the course to pursue by shareholders or others if the registrar were to grant a certificate of complete registration on an erroneous conclusion. It was sufficient for the Court to decide the question before them, and he conceived that the plaintiffs were entitled, notwithstanding the plea, to the concessions in which must be taken to be confessed, to recover on the shares.

Mr. Justice WILLIAMS was of the same opinion. The statute under consideration appeared to be defective drawn, and did not provide what was to be the effect of a certificate on a defective deed if improperly granted by the registrar. There were difficulties on either side, and he thought it best to hold that the certificate was not null and void; a contrary decision might lead to results which might make it impracticable to work this statute. He thought that this was a case in which the legal maxim applied, *factum valet quod fieri non debuit*. There must, therefore, be judgment for the plaintiffs.—Judgment for the plaintiffs accordingly.

LIVERPOOL MARINE INSURANCE COMPANY.—At a meeting of shareholders in this concern, their affairs appeared to be in so unsatisfactory a position, that the dissolution of the company appeared inevitable. The paid-up capital is swamped, and also an additional amount of about £26,000; but those who have any risks underwritten in the office need not, it is said, feel under the least apprehension on that account, as the shareholders are a wealthy body.

The Compendium of British Mining.

BY J. Y. WATSON, ESQ., F.G.S.

WHEAL TRELAWNY SILVER-LEAD MINE.—(For general statistics see *Mining Journal* of Jan. 6, 1849.) In 260 shares, price 85/- per share; paying dividends (quarterly) at the rate of 16/- to 20/- per annum, or 17½ per cent. The dividends already paid this year amount to 14/- per share. The returns are silver-lead, yielding about 17/- per ton, and of which 108 tons are returned monthly. In consequence of the extensive machinery, the monthly cost of working is high in proportion to the returns; but the shares, are, nevertheless, a good and safe mining investment.

WHEAL TREHANE SILVER-LEAD MINE.—(For general statistics see *Mining Journal* of Jan. 20.) In 256 shares, price 28/- to 30/- per share; pays dividends bi-monthly in Cornwall at the rate of 9/- to 12/- per share per annum, or rather more than 30 per cent.; the dividends already paid this year amount to 9/- per share; and there will be another of 1/- 10s. per share, payable in December next. The enormous amount of interest paid by this mine, in comparison with the price of shares, might, without explanation, lead many to suppose it could not be lasting. I would, therefore, remark, the seat is not a large one; but is worked at a very trifling cost, as compared with many mines, having no machinery, but paying Trelawny a monthly sum for the use of engine, water, &c.; whilst the ore raised are very rich for silver, and realise a price far above the average of the county—viz.: upwards of 20/- per ton. The paid-up capital of this mine was originally 1/- per share; whilst the dividends since 1847 have been 19/- 15s. per share, with every prospect of continuing for years at from 6/- to 9/- per share per annum.

NORTH POOL COPPER MINE.—(For general statistics see *Mining Journal* of March 10.) In 100 shares, price 525/- each; paying dividends, bi-monthly, at the rate of 140/- per share per annum, or 25 per cent. The dividends paid this year amount to 117/- 10s., and another becomes due in December next. North Pool is in a rich copper district, and is a young mine, with large quantities of ore discovered; the shares have, in consequence of discoveries, rose in value from 50/- to 500/- in one year.

WEST BULLER COPPER MINE.—(For general statistics see *Mining Journal*, May 5.) In 128 shares, price 300/-; pays dividends quarterly at the rate of 40/- per share per annum, or nearly 15 per cent.; amount paid this year, 20/- Little more than 12 months since, this mine commenced working, and only 10/- per share were ever required of the shareholders. The discoveries have been very rich; and the present rate of dividends cannot be taken as any criterion of what may be paid when the mine becomes more developed.

[To be continued in next week's *Mining Journal*.]

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—The lode in Field's engine-shaft, sinking under the 60 fm. level, is from 7 to 8 ft. wide; and the course of copper ore in the east end of the shaft is from 5 to 6 ft. wide, and the west end is 3 ft. The lode in the 60 fm. level, east of said shaft, is about 6 ft. wide, 5 ft. of which is good for copper ore; every foot we sink in the shaft and drive in this level is improving the appearance of the mine very considerably.

BARRISTOWN.—The stopes in bottom of adit-level, west of the slide, are producing about 10 ects. per fm. The lode in the 24 fm. level end, west of the engine-shaft, is 2 ft. wide, but not improved for lead; at present only a thin mixture through it. The lode cut in the western cross-cut, in the 18 fm. level, is about 18 in. wide, with a good branch of lead of 4 inches on the north wall, and a mixture of lead through the other part of the lode; we are driving an end on the course of it, which is at present 40° to the west of south, being different from anything we have previously seen here, and a westerly underlay; we are also working a pitch on it, which looks pretty well for lead. In clearing up the bottoms under the 18 fm. level, which is 9 fm. deep, we find a branch of lead, from 2 to 3 in. wide, standing perpendicular, which will pay to work on tribute.

BEDFORD UNITED.—The lode in the 103 fathoms level, east of Burley's whinstone, is 3 ft. wide, and producing 2 tons of ore per fm. In the 103 fm. level, west of this, there has been no lode taken down. We have not yet communicated the winze to the rise in the 90 fm. level, although all possible exertions have been used to effect it. There has been no lode taken down in the 70 fathom-level east. The ground in the engine-shaft, and the cross-cut in the 47 fm. level, remain without alteration.

BLISLAND CONSOLS.—We are pushing on our adit with all force; the ground is rather hard; we have a branch of elvan yesterday, which I hope will alter the ground for the better; the lode we cut last week looks most promising, underlays about 4 ft. in a fm., and contains stones of tin, capel, and felspar. As soon as our machinery is up, I shall begin to put men to stope the lode for the stamps; the carpenters are making a good strong job of the wheel, and are getting on well,

BRYN-ARIAN.—The lode in the 40 fm. level, driving west from the engine-shaft, is still disordered; but within the last few days appears to be getting more settled and yielding more ore. We have communicated the rise in the back of this level, east of the shaft, with the winge sink under the deep adit level, and begun cutting down the part of the lode left standing in sinking; when this is accomplished, we shall commence driving the 10 fm. level east, and also stoking the piece of ground now cut out by this communication, which is about 9 fms. long and 10 fms. in height, and from present appearances, both end and stope will yield at least 13 ects. of ore per fm. The stope in the back of this level, west from the shaft, is yielding 8 ects. of ore per fm. The lode in the deep adit level, driving east from the shaft, is 5 ft. wide, composed of spar, killas, jacks, and several small strings of lead ore; the present is now within 12 fms. of a junction of lodes, where there appears to be a fine gossan, mixed with copper and lead ore, from which several tons of ore have been risen and sold; this level is about 38 fms. from surface. We are now down about 10 fms. on the great south lode, and find the workings very large and the water quick; but I hope to be able to see the bottoms of these workings within a month from this time.

CAMBORNE CONSOLS.—Francis Daniel, Esq., reports by letter, dated Nov. 14.—It is gratifying to be able to continue to confirm to-day the intelligence which my letters have recently afforded to you of the flattering prospects of these mines. Our silver lode in the 20 fm. level, having undergone no failure in the past week, and judging from its appearance in the end of the afternoon, where it is producing rich silver ore, and is equal, I believe, to anything we have had, it can scarcely be doubted but we shall realise large profits, particularly if the inexpensive mode by which it may be wrought be taken into account. I have the pleasure of adding that we have just cut the silver lode in the 40 fm. level, on the eastern side of the cross-course, but as it has been a little towards the north, we shall have about 6 fm. further to drive before we get it on the western side. In the 20 fm. level we had to drive about 15 fms. west before we came upon the silver ore, and as the lode is driven by the cross-course for about that distance, we have a similar distance in the 40 fm. level before we shall get into productive ground. This will take about a couple of months; but you must not understand that the ground between the 20 and the 40 fm. levels will not be available to us then. On the contrary, I expect that, by the time we get 3 or 4 fms. west of the cross-course, on the course of the lode in the 20 fm. level, the ground between the two levels will be effectively drained, that we shall find no difficulty in sinking below the 20 fm. level, and thus very materially increase our raising of silver ore. Silver ore being a material time to prepare for the operation; we have, however, commenced the dressing this afternoon, for which purpose I have provided complete hand apparatus with the work. In the meantime, I have availed myself of every opportunity of testing, and otherwise ascertaining, the value of the several varieties of rock for which such ore are usually found; their produce has varied from 56/- to 339/- per ton. I have been surprised to find, by several experiments, that the muds of the lode are worth silver from 10/- to 40/- per ton. This is in itself a most striking fact, as we shall therefore, save all the metalliferous part of the lode, and the dressing process will be rendered less tedious and complicated. I am glad to find it is my privilege also to say that our adit, upon the Dorey counter, is producing fine stones of copper ore, and giving out a large quantity of water, which, as we are daily expecting to cut the new, or Tyndale's, lode at its junction with the counter, we deem a most favourable indication, and are rather anxiously looking to the result. We have just holes and nearly completed Tyndale's shaft to the adit-level, which will afford us thorough ventilation, and great facilities for working those lodes, as well as Martin's, and two other lodes to the south of the shaft; whilst the 20 and 40 fm. levels, upon the silver lode, will, in a comparatively short space of time, enable us to unravel and work the several lodes at those depths below the adit. Upon the whole, we cannot well be in a better position for turning to account the great resources of this valuable piece of mining ground, and I shall not fail of duly apprising you of anything interesting which may turn up.

COURT GRANGE.—Captain Mathew Francis reports, by letter, dated Nov. 15th.—The large wheel and machinery went to work yesterday. Everything went smoothly and easily, and, I think, nothing could be altered to make it better. I hope we shall have the water out of the mine by Monday, and, except in cases of severe frost, I cannot imagine that anything can occur to hinder our progress for many years to come. We have now a few days' work to do, to repair the crushing-mill wheel and crushing machinery, when everything in this mine will be in order. The ore-ground eastward, as seen in the end of the 30 fm. level, is of great importance, it being in maiden ground. We have also several tons of ore prepared for crushing, and, altogether, things are in a favourable position for bringing out the full value of the property. The Llwydian engine-shaft is also sinking in a good course of ore; but our carpenters and smiths have been too busy at Penycelyn Mine to be able to work at the Llwydian crusher; but no time will be lost in fixing it, so as to get this mine into production, as well as Penycelyn. Small rods are now at liberty at Penycelyn, which, up to this time, have been used for pumping the water there; and, after they have undergone thorough repairs, they will be applied at East Penycelyn for sinking in that fine lode; and, from all appearances, I expect we shall soon get into some fine ore-ground in that part of the mine. Our attention will now be directed to reducing the surface cost to such an extent as will be compatible with the well-being of the mines; but I really do not see that we can do without a small office. The new smelt is a very nice building to look at, and very convenient for the purposes for which it is required.

CWM ERFIN.—Capt. Nicholls and myself have been through the under-ground work in this mine to-day. The stopes along the back of the 20 fm. level, east of the engine-shaft, are in a compact well-mineralised lode, yielding, on an average, 1 ton of ore to a fathom of ground; the 20 end has now arrived, in driving eastward, to a par-

tion of the lode that, from the dip of the ore in the upper levels, may be expected to bear ore; it is, however, now unproductive; 13 fms. further eastward, where a level has reached in its course driving westward, from a winze sunk below the 10 fm. in order to expedite the getting the 20 through the ore-ground, there is a course of ore yielding about 1 ton to a fm. It is, therefore, evident that, in a very short distance, the 20 east must reach this ore-ground, which has been worked by means of the winze under the 10 and the 20 from it for a distance of 15 to 16 fms., yielding, on an average, 1 ton of ore to a fathom. This ore-ground has been further seen by means of the working from the eastern engine-shaft 16 fms. further eastward, and there is every probability of the 20 containing a good ore-ground, at least, for this distance, altogether giving a length of bearing-ground of about 190 fms., in which, as is natural to lodes, there are occasional patches of poor ground; but certainly the half, or 60 fms., of this ground will yield 1 ton of ore to a fm., which may be considered fairly profitable ground. The winze sinking under the 20, 25 fms. east of the engine-shaft, yields 1 ton of ore to the fathom; the general nature of the ore-ground is without any change worth noticing, and the dressing has produced this week about 6 tons of ore.

EAST BIRCH TOR.—We have this day raised some excellent rocks of tin from the No. 5 lode; I think much better than any I have seen here before. The stopes on the south lode are also improved since my last report. We are getting on with the dressing of ore as fast as possible, and shall be ready for the smelting-house in the course of a week. The men are working with good spirit.

EAST CROWNDALE.—The middle shaft will reach the 28 fm. level by the end of next week, and by the end of this month our pitwork will be fixed and the whim kibble brought to bottom, when we shall commence driving east and west. The lode in the shaft has improved for the last 4 fms., the sinking, at present producing excellent work—should this continue, which I have no reason to doubt, our dragee will at once be laying open profitable ground. Our tributary ground in back of the 17 looks well; the tributaries have 9s. 4d. out of 14/- for sending the work to surface, they paying all costs; and if the lode holds good the month out, the men will do well. We shall sample our tin for September and October this evening, and shall send it on to Plymouth for shipment on Wednesday next. I now leave for Glouster to sample the copper ore, computed 24 tons. The assays, both of tin and copper, shall be forwarded as soon as received.

ESGAR LLEE.—The north lode in the deep adit, east of the cross-cut, is much the same as last reported, and will yield, on an average, 10 ects. of ore per fm. The south lode in the deep adit, east of the engine-shaft, is poor. There is no alteration in the lode in the winze below the shallow adit since my last report; we have flushed putting in air pipes, and we have now good air in the winze. The eastern lode in the shallow adit, west of Morgan's winze, is much the same as last reported; we are now driving in the 20 fm. level west of the engine-shaft, and producing stones of lead of the first quality, of near 4 cwt.; and, judging from its general appearance, I think, in depth, make a very productive lode. The sump shaft is not progressing as fast as I should wish, for the party who contracted to drive it 9 fms. west, certain at 11 fm. per fm., and, in case they sink it in three months, to receive a premium of 10/-, have proved to be the slowest and most drunken set I ever met with. We shall, I think, finish cutting the lobby to the wheel pit by the end of another week, after which we must turn an arch over it, in order to put back the stuff from the wheel pit.

HAWKMOOR.—We have completed fixing the plunger lift, which works very well. The lode in the engine-shaft, when last cut into (about 3 feet above the bottom) was 34 feet wide, composed of fluor, spuri, mundic, and ore, worth 25/- per fm.; there is every reason to expect an equal amount of ore, if not an increase, on the next taking down of the lode. The lode in the 20 fm. level west is at present 3 ft. wide, and will yield 1 ton of ore per fm.; we have resumed driving the 20 fm. level north to the lode, which is 4 ft. wide, and I think, in depth, make a very productive lode. The sump shaft is not progressing as fast as I should wish, for the party who contracted to drive it 9 fms. west, certain at 11 fm. per fm., and, in case they sink it in three months, to receive a premium of 10/-, have proved to be the slowest and most drunken set I ever met with. We shall, I think, finish cutting the lobby to the wheel pit by the end of another week, after which we must turn an arch over it, in order to put back the stuff from the wheel pit.

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ALTEN MINES.—Estimated produce for September:—			
Mines.	Tons of Ore.	Per Cent.	Fine Copper.
Raipas	60	8	4'30
Old Mine	50	5	4'40
United Mines	18	6	1'08
Michell's	30	73	2'25
Mancur's	1	5	0'05
Hoyer's	2	6	0'12
Carl Johan's	8	2	0'04
New Lodes	51	6	0'33
Total	204	13	1'67

Mining Report from the 30th September to the 15th October.

Raipas.—The 20 fm. stop still yields good and profitable returns, the lode runs rather more horizontally, but the prospects continue equally good. The 20 fm. cross-cut has not further improved, neither has it deteriorated—some good ores have been produced from this working. The recent snow fall and frost have put a stop to the surface work, but the tributaries are now employed in various parts of the workings, from which we fully anticipate equally satisfactory results. The whole of the September produce is now brought to Bushwick, and, in a few days, will be delivered to the smelting-house. The carriage of ore from the mine is suspended for a short time, on account of the ice forming on the river.

Old Mine.—The general appearance of the several workings is still encouraging, and some of them have rather improved. The exploration of the main lodes north-easterly makes fair progress, but continues very poor; the ground is favourable for driving, and we expect an improvement will shortly take place. The new lode above is still yielding good returns, with flattering indications of permanency; and, on the whole, we may look upon the progress recently made as highly satisfactory.

United Mines.—We have commenced sinking under the 10 fm. level, on Ward's lode, where we hope to be more successful than heretofore, although the prospects as yet are not altogether very encouraging. At Woodfall's, we have recommended operations in the mine, and the tributaries make some fair returns of ore, of an improved per centage, from the back of the north lode, where the prospects are favourable.

Royer's.—This mine has undergone no change; the tributaries have hitherto returned but small quantity of good ore of the usual quality, and but little can be done here during the winter.

Mancur's.—The mine has latterly been poor, and having had more profitable employment for the workmen, the operations have been reduced to a very limited scale, with a corresponding reduction in the returns.

Michell's workings continue favourable, but the winter setting in offers many impediments to the surface operations, in consequence of which I fear we shall shortly be obliged to resume less productive places in the mine, which for a time will probably occasion some deterioration in the returns, but we shall endeavour, if possible, to get under cover on the new lode, in the hope of being able to work throughout the winter. The stopes on Nellen's lode is more confined, but the prospects are equally good. The other workings are still yielding remunerative returns.

Carl Johan's.—The ground is rather harder, and the tributaries are not making such favourable progress as before; the returns, however, are still remunerative, and we hope they will again shortly increase; the ore continues of the usual good quality, and the prospects of this mine are not less promising. The whole of the tribute ores are not yet returned, which prevents us from handing you the usual delivery note by this post; but, judging from the returns already made, I have no doubt, when completed, that they will amount to upwards of 30 tons of copper for the two months, including back stocks at Raipas; by the end of this week the whole of the ore will be delivered to the smelting-house, when the result of the assays will be forwarded.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Gadair Mining Company—offices, half-past Four.
WEDNESDAY.....Rhymney Iron Company—offices, One.
THURSDAY.....Etonian and General Life Assurance and Endowment Society—offices, Two.
FRIDAY.....Agriculturalist Cattle Insurance Company—offices, Twelve.

IMPERIAL BRAZILIAN MINING ASSOCIATION.

The half-yearly general meeting of proprietors was held at the London Tavern, Bishops-gate-street, on Tuesday last, the 13th instant.

JOSHUA WALKER, Esq., in the chair.

GEORGE THOMAS, Esq. (the acting director), having read the notice convening the meeting, and the minutes of the last meeting, which were confirmed, read the following:—

DIRECTORS' REPORT.

Since the last half-yearly meeting, the occurrences at the mines have not been important, and the extracts from the correspondence, regularly exhibited at the office, have afforded the information received from time to time. It is with much satisfaction the directors now report, that the half-year ending the 30th June last, as well as the one preceding, shows a balance of profit. Whether a like result will attend the present half-year cannot be yet anticipated. A bunch of gold, of about 60 lbs. weight, was unexpectedly met with at Banana in June, and similar, or better, good fortune may attend the operations of the present half-year. Mr. Henwood ceased to be chief commissioner on the 18th August, and arrived safely in England by the *Penguin* packet on the 23d of last month. Capt. Hitchens reached Banana on the 13th August, and but one despatch has yet been received from him, dated the 23d of that month. The short time that had then intervened between his arrival and the writing of his letter was so entirely occupied in examining the accounts and taking possession of the property, that he had no time and effect of the association previously to entering on the responsibilities of his office as chief commissioner, that he had been unable to take more than a cursory view of the state and condition of the property at the mines. It will be recollectcd that Capt. Hitchens in his letter, printed in the last report, stated his confident opinion that Banana could be sunk and prosecuted to a much greater depth, and that satisfactory results would be realised; and it is gratifying to know that he now on the spot expresses himself as not having seen anything to change this opinion he formed before he left England. His words are: "Being here only a few days, I have not yet had time to fully examine your mines, but, as far as I can judge, the capabilities of Banana mine, to a much greater depth, are great." The management of the machinery must, however, undergo alterations, and all the fall of surface water be employed, and I have little or no doubt of being able to carry out the same views I entertained when I waited on the directors in London in April last, with regard to the prosecution of this mine." Copies of the inventories and accounts at the close of the chief commissionership of Mr. W. J. Henwood have arrived in England, all of which appear quite correct, and are evidence of the good system and regularity of that gentleman. It will be observed that the balance, so long to the debit of the accounts, is again to the credit, in the sum of 22492. 18s. 10d. At Banana Capt. Hitchens has before him a task which calls for all his attention, and the exercise of a sound judgment, which his long practical experience in mining has afforded him the means of acquiring; and these the directors are confident he will devote unspareingly to the duties he has engaged to perform, and they are prepared to afford him all the support he may require, so far as prudence and economy will allow. At Gongo Soco, the directors have determined to resume extensive works, by adopting an economical method of open cutting, and stamping the jacotanga on a very large scale, which plan was alluded to in the 42d report as having been approved by able and experienced mining agents in Cornwall. The opinion of almost every person who has been consulted is very favourable, in regard to the success to be anticipated from this mode of working. In those parts of the Gongo Mine which have produced gold so abundantly, as well as in other places, and at Cumbe Mine also, which were not sufficiently rich for the "bates," or to remunerate the expenses, labour, &c., attendant on mining, enormous quantities of jacotanga remain, containing gold, and sufficient to supply profitably a considerable number of stamp-heads for many years. Capt. Wan and John Tregoning, sons of Capt. Wm. Tregoning, the first chief mining captain the association engaged, upon whose recommendation Gongo Soco was purchased, and who themselves have worked nearly three years at that mine, have presented a modified plan for taking away the mass of jacotanga at a very insignificant cost, as compared with any method heretofore adopted. The force required to operate on this mass, which the late Capt. Wan, Tregoning was of opinion would well be trifling; and the outlay, to enable the Messrs. Tregoning to commence their plan, and supply stamps with 300 tons of jacotanga daily, is strictly limited to 3500/- the extension of the system to depend on the profits of the work as it proceeds. The Messrs. Tregoning, who have planned and will superintend the scheme, pay their own expenses from England to the mines; and so confident are they in the results, that they forego all salary, stipulating only for a small per centage on the profits as their remuneration. The following is a short outline of their intended proceedings, writing by themselves:—"So soon as we arrive at the mines, furnished with the railway materials and labourers, we purpose to commence our plan, by making a tunnel at or about the 14 fm. level, to perforate the auriferous jacotanga formation to about its centre, when there would be an open cutting commenced, by shooting the stuff through a shaft into the waggon below, which will be drawn by horses to the mouth of the tunnel, and then over the railroad, which will be constructed from that point to each of the stamps, there to be pulverised and washed in the usual way; by these means all isolated bunches of gold would no longer escape detection, as the whole mass will be wrought upon, and the gold extracted for £s. per ton. We purpose to commence extracting the gold from 300 tons of jacotanga per diem, which, we consider, will leave a large profit per annum, and gradually to extend our plan; we expect to commence open cutting on different parts of the formation, which the position of the respective stamps will partly govern. One set of immediate operation will be at or about Lyon's shaft, where we propose to make an immense open cutting east and west on the auriferous formation from that place." It is very satisfactory to know that Capt. Hitchens and our late chief commissioner (Mr. George Vincent Duval), corroborate the statements and opinions of the Messrs. Tregoning, and many others, as to the immense quantity of jacotanga holding gold still in Gongo. Captain Hitchens, in April last, stat'd: "The jacotanga is to almost inexhaustible;" and on the 23d August writes—"I have hopes of being able to turn Gongo Soco to good account, as it is an undeniable fact that millions of tons of auriferous jacotanga yet remain in the mine." A further and no unimportant advantage, under present circumstances, is also offered by this arrangement—viz.: that Capt. Hitchens will not have his attention divided by the minute and daily details of two establishments, as a general inspection and superintendence only will be required of him at Gongo, and the details to be left to the Messrs. Tregoning, whose residence will be confined to that estate. The Messrs. Tregoning and five men will leave England during this month, and will probably reach Gongo, and commence their works, by the month of March or April next; and four months after they reach the mines they engage to have their plan fairly in operation, and to begin stamping and returning gold.

The quantity of gold from Gongo in the last six months, ending 30th June, has been 90 lbs. 2 ozs. 6 dwt. 9 grs., and from Banana 149 lbs. 11 ozs. 3 dwt.; together, 240 lbs. 1 oz. 9 dwt., and will realise 9142. 85. 5d. The gross expenditure for the same period at Gongo, Banana, and in England, has been 74071. 9s. 1d. (equal to about 13 ozs. per day), or 25112. 5s. 1d. less than the last half-year. The arrears of salaries, &c., are also diminished, by 1612. 16s. 6d. The mines have yielded a surplus in the last six months over expenses of 1740. 19s. 4d.

The Chambers at Rio will assemble early in 1850, when the petition of the association, praying to be charged only 5 per cent. duty, will be presented. Sir Isaac Lyon Goldsmith, Bart., has become a trustee in place of George Lewis Hollingsworth, Esq., whose decease was announced in the last report. The force on the 30th June consisted of 46 Europeans, 34 native labourers, 366 negroes; total, 456 persons. During the half-year there were only two deaths, thus fully maintaining the very low rate of mortality stated at page 4 of the *Forty-fifth Report*; and the whole establishment continued, to the latest advices, particularly healthy. The anxious endeavours of the directors have been at all times to adopt such changes in the management of their mining properties as they believed, after mature consideration, would be for the advantage of the association; and so long as they possess the confidence of the proprietors, and feel, as they now do, that the mining estates of the company fairly justify every reasonable hope of success, they will not fail to continue their unremitting and best exertions.

The following is a statement of receipts and expenditure for the half-year ended 30th June last:—

Dr.	Balance Sheet.
Balance last account	£ 577 4 10
Salaries—Banana and Gongo	3846 18 6
London	715 0 0
General expenses—Banana, Gongo, and London	3844 10 7
Calls (balance)	12 10 0
Balance	2249 18 10

Cs.	Total
Half-year's dividend on £50,000, 5 per cent. stock	£ 284 8 1
Proceeds of gold from Gongo	3379 12 0
Ditto Banana	5768 15 5
Arrears of calls	105 0 0
Proceeds of 223 shares over calls due thereon, transferred from suspense account, and carried to profit and loss	599 6 3
Total	£10,247 2 9

LIABILITIES.	
ARRETS.	
Balance of above account	£ 2249 18 10
Stock, 3d per cent.	25,000 0 0
Twenty Imperial Brazilian shares, office furniture, and palladium.	

The CHAIRMAN then observed, that the proprietors would see from the report that the directors had not been idle; and he considered the arrangements entered into with the Messrs. Tregoning, for working Gongo Soco Mine, a very valuable measure. He then alluded to an item in the accounts of 599. 6s. 3a., the produce of 223 shares, over and above the amount due for calls, which had been forfeited and sold. He had received an anonymous letter on the subject of these shares, signed "An Old Shareholder," most abusive and insulting to the directors. He believed, since he had been chairman of that board, twenty-five years, he could appeal to the meeting whether there had been the least signs of unfair dealing, or whether every information had not always been most readily given; he called upon the "Old Shareholder" to avow himself, and openly seek an explanation. As nobody responded to this call, he (Mr. Walker) said, "then I treat him with the contempt he deserves, by tearing his letter to pieces;" and simultaneously suited "the action to the word." He then explained that, on realising the amount in question over and above the calls, the directors considered it advisable to keep the matter open for a time, and carried the amount to a suspense account, in the correctness of which mode the auditors fully concurred. As, however, this anonymous letter had been received, they had now brought it forward into the general balance-sheet, and this was the whole explanation of the matter.—In answer to a question from a proprietor, the CHAIRMAN said, Mr. Henwood had arrived in England, but had not yet come to London.

The report and accounts were then received, adopted, and ordered to be printed and circulated among the proprietors.—A vote of confidence and thanks was passed, with acclamation, to the directors, to which the Chairman replied, and the meeting broke up.

DEVON AND COURtenay CONSOLS MINING COMPANY.

At a two-monthly meeting, held at the mine, on the 13th instant,—JAMES DIAMOND, Esq., in the chair,—the accounts were examined and passed, showing—Balance last account, 482. 5s. 8d.; labour cost, Sept., 150. 5s.; ditto Oct., 159. 19s. 7d.=3881. 9s. 10d.—By ore sold, 851. 18s. 4d.; calls, 127. 15s.; leaving balance against the company, 124. 16s. 6d.—A call of 5s. per share was made.—The following is an estimate of the current two months' liabilities, and how to be provided for:—

Dr.—Balance as above, £124 16 6	Ca.—Ores sold, not paid for, £144 0 0
Sundry accounts, 82 0 0	Do. raised not dressed, estimated, 144 0 0
Estimated cost, Nov. 80 0 0	Call made this day, 5s. per share.
Do. Dec. 100 0 0	

£386 16 6

The following report, from Capt. N. Seccombe, was read:—

Noy. 13.—I beg to inform you, that since our last general meeting, we have sunk the mine in the bottom of the 40 fm. level, on the gossan lode, 3 ms. 2 ft. 11 in.—the lode being generally large, and composed of capels, muriac, and quartz, interspersed with stones and spots of ore in various places: but the water is now become so plentiful as to render it absolutely necessary to suspend all operations in this place. We have now resumed sinking our engine-shaft; and on Friday last, being our setting day, we set to sink 10 fms. below the 50 fm. level, and to complete all necessary alterations in our pit-work, for 160'. In the back of the 40 fm. level we have risen 3 fms. 2 ft., and stopped 8 fms. 9ft. 6 in.—the lode being on an average worth 6d. per fathom; this stoppage is now set on tribute to four men, at 4s. 3d. in 12. In our 50 fm. level we have intersected the gossan lode, east of the great cross-course, and driven east on it about 2 fms.; the lode in this place is 24 fms. north of the south lode, having an inclination south of about 2 ft. in a fathom; we have also intersected this lode 26 fms. further east, where it is 44 fms. north of the south lode, having in this place an underlay of nearly 3 ft. in a fm. From these observations, I calculate that, in about 10 or 12 fms. below this level, those lodes will unite, when a considerable improvement may confidently be expected: in the back of this same level, on the south lode, we have two pitches, worked by four men, on timber; those pitches are at present looking well. We sampled on Saturday last, the 9th instant, 19 tons of ore, worth about 140'. The quantity of ore for the next samplings, which we are about to commence dressing, I estimate at about 20 tons. Upon a review of the operations of this mine, I think every shareholder will be gratified to see that our prospects continue to improve; and there is every reason to expect, as those lodes are explored at deeper levels, greater quantities of ore will be realised.

HEIGNSTON DOWN CONSOLS MINING COMPANY.

At the two-monthly meeting of adventurers, held at the offices of the company, Threadneedle-street, yesterday—G. K. HUXLEY, Esq., in the chair—the accounts were presented, showing—Balance last account, 349. 16s. 9d.; tin ore sold, 1632. 7s. 7d.=5132. 0s. 4d.—By labour cost, August, 1882. 14s. 8d.; September, 1882. 0s. 9d.; sundries, 23. 7s. 1d., leaving balance in favour of adventurers of 1022. 17s. 11d.—A call of 2s. per share was made. The following is an estimate of assets and liabilities, for the current two months:—

Liabilities	ASSETS.
Estimated cost, Oct. £200 0 0	Balance above £102 17 11
Ditto Nov. 200 0 0	Estimated proceeds of 4 tons 3 cwt. black tin 130 0 0
Office expenses and dues 32 10	£232 17 11

£243 10 0 And above call of two shillings per share.

The following report was read to the meeting:—For your meeting of the 16th inst., I beg to hand you a few particulars, having reference to the present appearance and prospects of this concern; and although but little of a definitive character can as yet be submitted, yet

and, getting too heavily watered, they were obliged to abandon it, although they had a 6-in. solid branch, and a good mixture throughout the lode, going down in the shaft bottom. The present working is from below; and the men are in good spirits, as there is a good deal of whole ground in this part of the mine; and wherever we can find whole ground, we are certain of finding ore. Armstrong and partners also have a good ore working; so has Crawford. They were very successful last quarter, and they expect to be more so this. Last week we opened into a new and excellent working above Harrison's level, which, making a way up into what is called Davis's pitch, we put ten men into yesterday. They will raise ore fast in it at about 45s. per ton; and by next week we shall be into Davis's ground, which we know to be whole for a considerable distance. The ground is rather hard, and will not leave such a large profit; but we shall be able to set a good number of men in it until the bottom levels are unwatered. The ore in Davis's place will cost about 3L 5s. to 3L 10s. per ton, which still leaves a good profit. We never had such a prospect of raising such quantities of ore above the adit level as we have now. After the engine is at work, I do not see any difficulty we shall have in raising 200 tons a month. On Tuesday, I met with a miner who was the last man that was in the bottom level at the time of Mr. Nott's death, when the pump-rod broke, and thus filled it with water; and he told me that we should find a good deal of ore already worked to our hands, and the tools of about 40 miners; he says that 50 or 60 men can be set on to work ore immediately the water is out. Cost for July, August, and September, 600L; ores raised and sold, 1076L: profit during the three months, 476L.

DELAWARE SLATE QUARRY.—After sinking an area of more than an acre, to an average depth of more than 80 ft., they are at length in the large bed of the most splendid slate; and the Delabole, Pengelly, Bird's Island, and Land-work Quarries, are all producing large quantities of slate, far more than they have heretofore done; and the demand for the article is unusually active.

DURIN MINE.—The ore ground in the top level has greatly improved, and there is a good course of ore for 4 ft. wide there, with very excellent stuff coming out of the mine. There is nothing new in the other bargains.

EAST BALLESWIDDEN.—This mining sett is situated in the parish of San-creed, about three miles west of Penzance, and in one of the greatest mineral districts in Cornwall, being surrounded by the following mines:—Ding Dong to the east, Penzance Consols to the west, Wheal Concord to the south, and Balleswidden to the north. Those mines are now in full working. Ding Dong and Balleswidden have given immense profits to the adventurers, and still continue to do so. East Balleswidden Mine, from its well-known locality, and the inexpensive way in which it can be developed, is not to be surpassed in the county. The sett is very extensive, and it is admirably situated for water-power, as a never-failing stream bounds the whole eastern extremity of the sett, and will put the mine to any depth. There are several champion tin lodes, likewise counter lodes, and a number of branches or veins of tin, leading from one lode to another. These lodes and branches have been worked above the adit level (which is about 17 fms. deep) to a great length, and produced immense quantities of tin, and presents greater workings than most mining sets—a proof that the minerals lie shallow, and have been found valuable when raised. Its proximity to Penzance Consols and Balleswidden Mines renders it more valuable that it would otherwise appear to be, in consequence of Penzance Consols having during the short period of her working raised upwards of 38 tons of tin, and at the present time looking exceedingly well, especially in the bottom level going down; and Balleswidden Mine has, during the last nine years, produced the astonishing quantity of 250,000L worth of tin, giving large profits to the adventurers, and still looking well. The grant of this sett is for a term of 21 years, at the very moderate rate of 1-20ths dues. The geological features of this valuable and extensive mining sett cannot, according to opinions of practical mining agents, be exceeded in Cornwall or Devon. The lodes are running through a strata congenial for tin, being in a rich granite, similar to the tin deposits of the neighbourhood. It may, with propriety, be stated that there never was any machinery erected on the sett for draining the mine, although the adit level is driven west nearly 70 fms., and has intersected and cut several lodes; many have been wrought on, and been very valuable. No doubt, but that the ancient tinners must have been well remunerated for their perseverance, as the tinstuff raised by them had to be carried several miles to water stamps, on mules' backs, to be stamped and made marketable, all of which can be done now on the mine. Considering the locality, and its beautiful stream of water, for which a tin mine cannot be too highly appreciated, and also the value of its western mine (Penzance Consols), where, when a suitable engine is erected, and the water drained, a beautiful lode of tin was discovered, this will shortly stand unrivalled in the county as a tin mine. This presents cheering prospects as to the value of East Balleswidden; and it may, with propriety, be asked, why should it not be the second-best tin mine in the country? The value of this extensive sett is considered very great—such, indeed, as cannot be easily estimated; and its equal has been rarely met with in any mining district. This affords an excellent opportunity to capitalists desirous of embarking in such a peculiarly favourable adventure.

PENZANCE CONSOLS is very much improved; a lode in the bottom end west is worth 40L per fin.; and a lode in the shaft holding down is worth 45L per fm.

TAVISTOCK CONSOLS.—You will be very glad to learn the lode in this shaft continues to improve for tin, and maintains its size—being nearly 6 feet wide, and composed of large masses of mucky, mixed with spar, peat, and prian; the two latter are in larger quantities than they have heretofore been, and seem to contain the tin. We have been a little prepared for finding tin instead of copper—the captain having maintained against most other agents that it would be so for the last 12 months; and an old tributary from Polgoon, who has been working for some time here, has held the same opinion; but we scarcely hoped that such a large, regular, and strong mucky lode would produce tin; but so it is; and we are all, as you may suppose, in high spirits.

WEHAL ANDERTON.—I regret that I did not (if I may use the term regret) purchase some shares in this mine, which were offered to me at 5L, when I was last in London. They have here a good, very good, lode in the 70 west, a good lode in the 80 west, and is now quite clear of the cross-course. He will probably cut the north lode first, and then drive to cut the other two lodes: it is not likely that he will let down much water, as the Wheal Ash adit takes off all the grass water.

WEHAL MAY SILVER AND COPPER MINE.—In consequence of some important discoveries having been reported by the captain to have been made in this mine, the chairman of the finance committee, in company with other gentlemen, went to the mine on the 2d instant, and inspected the newly-discovered lode, from which he broke a large sample of ore, as an average of the whole lode, and since his return has pulverised it with his own hands, and got a friend on whom he could rely to assay it. The produce of five assays averaged 141 ounces of silver in the ton of ore, and 26 per cent. for copper; thus corroborating the correctness of the captain's report.

WEHAL PROSPER.—In reply to your inquiries respecting this mine.—It is situated on Dartmoor, as you are aware. On the north lode we are sinking a winze in the bottom of the level, to prove if the branch of tin is making down; and I believe there can be no doubt but that it is. Our backs on this lode are working for 12L in 1L. On our south lode we have gone back to the foot of the hill near Walkham River, and have commenced our adit for the south lode; we have driven about 8 fms., and have got the lode, but it is at present shallow, not more than 2 fms. of backs. In driving about 20 fms. further on this lode, we shall have from 25 to 30 fms. of backs. The lode at present is 3 ft. big, carrying two regular walls, and producing tin; and, from its present appearance, we shall not have many fathoms to drive before we shall have a good lode. We shall have these backs for nearly one mile in length; and all our work can be done without an engine of any sort. As a new concern, I do not believe there is a better speculation in the two counties.

[From the *Plymouth Journal*.]

BACH TOR AND VITIFER MINE.—At Vitifer lode, we are at the bottom of the old engine-shaft, and we can go 30 fms. west of this shaft, in the 8 fm. level; all the backs are taken away, and at this point the level is full; the south side is very much crushed, and we must secure this side all the way. The northern side of this level is firm. The eastern level is full, and we are clearing and securing it with all possible speed. At Dunstan's shaft, the ground in the 20 fm. level west is improved, and so is the lode. We have a very promising lode in the 20 fm. level east of this shaft. The 10 fm. level, west of this shaft, is opening profitable ground. We have cut the lode in the 10 fm. level, east of this shaft, to-day; I am not in a position to say anything about the value of the lode at present, you shall have that in my next report. The ground in the cross-cut in the north lode is improving. There is no change in any other part of the mine. The sampling will be about 3L tons.

PLYMOUTH WHEAL YERLAND.—The engine-shaft has been sunk about 10 ft. under the adit level, on the course of the lode, and is producing good work. In the adit level west there is a good lode, and the spar in the level east has died out, and the lode considerably improved. The tram road, to bring the staff to the cart road, is finished, and in use. On the whole the mine looks healthy, and is almost paying cost, whilst valuable ground is being laid open.

WEHAL FRANCO.—There is little change since our last; it is, however, satisfactory to know that the mine is making some profit.

TAVISTOCK CONSOLS.—The lode in the shaft on the Wheal Ash lode is producing rather more tin than at our last report. We are at present dropping two pumps, and the sinking will be resumed to-day. There is an increased quantity of water coming up.

SINGULAR OCCURRENCE ON A TELEGRAPH LINE IN PRUSSIA.—A curious accident occurred to the electro-telegraphic line between Berlin and Stettin the other day. The communication having been found to be interrupted, search was made for the cause, when a mouse's nest, with a little brood, was discovered in the gutta-percha tube, and it appeared that the little animal had contrived to gnaw through or disturb the wires.

THE PROPOSED CERRO DEL BOTE MINING COMPANY.

SIR,—I am given to understand, that the contract between the owners of the Cerro del Bote Mine and the Bolanos Mining Company having been, by mutual consent, cancelled, and the mine having in consequence ceased to be the property of the company, it is proposed to form a new concern, under the more attractive title of the "Cerro del Bote Mining Association." This mode of proceeding is the best, under all circumstances, that could be adopted. As the old Bolanos shareholders did not come forward in a manner that would pronounce them desirous of retaining the mine in their possession, it reverts to the owners, on terms which will leave the concern to those new adventurers who may be desirous of trying their fortune untrammelled by debts, and with everything requisite to enable them to proceed with that spirit which so extensive and so evidently valuable an undertaking merits.

A very rare opportunity now offers for persons of an enterprising spirit to invest their capital to advantage. The most prominent excuses of those who did not respond to the call of the Bolanos directors were that—first, they had no confidence in their management; second, they did not see the necessity for seven directors; and third, they considered the expenses of management too heavy. I will not discuss the merits of these excuses; but will only suggest that it will be in the power of the subscribers to the new company to obviate these difficulties. Those in whom they have no confidence, as managers of the Bolanos Company, can only be interested in the Cerro del Bote Company to the extent of their subscriptions; and it will rest with the proprietary to elect whom they please to direct their affairs. If they consider four directors sufficient (and in a multitude of counsellors there is not *always* safety), let them elect only four. They may impose what terms they please on the newly appointed board of directors—having reference to the expenses of management, nomination of *employees*, and so forth.

On receiving over the mine, the new company will not have to wait until either underground or surface works are completed ere they commence their operations. On the contrary, everything is ready for them; the dinner is cooked and set before them, they have only to eat it. They have even an engine, a very excellent one, that has only been worked since its erection during a sufficient period to prove its efficiency. The first thing to be done—and on this, in a great measure, will hang the issue of their labours—is, to procure a good supply of stores of all kinds, the deficiency of which, concomitant on the want of funds, seems to have hastened the dissolution of the Bolanos Mining Company. A good supply of fuel for the engine, and of salt and quicksilver for the hacienda, is indispensable.

But I am digressing; it is not my vocation to point out what can be done, or what *must* be done. With capital judiciously employed on such a mine, as all agree in describing the Bote to be, *everything* can be done—without it *nothing*. It is impossible to draw water out of a well without a bucket. I merely wish, through the medium of the *Mining Journal*, to enumerate to gentlemen interested the advantages of which they would derive the benefit in undertaking to work this mine, and to impress upon them the folly of rejecting the offer which I am induced to believe its owners are about to make them.

In my humble opinion, a meeting should be called of those who subscribed the 13,000L under the late resolutions of the Bolanos Company, and some arrangement entered into with them for procuring the requisite amount of capital. Many of them would, doubtless, under the new circumstances, be induced to add to their subscriptions; others would induce their friends to come forward; and, by dint of advertisement in the daily press, and through other channels, I have very little doubt that the subscription list would show a satisfactory result.

These, sir, are only *my* humble suggestions; they may or may not be worthy of consideration. However, great perseverance must be used at the present time, or the Bote Mine will have to remain in the hands of the owners, who, doubtless, were they to proceed with the works on their own account, would, in a short period, amass a considerable fortune.—J. G.: November 18.

ST. JOHN DEL REY MINING COMPANY.

SIR,—I request the favour of your inserting, in your Journal, the enclosed copy of a letter I have addressed to Lord John Russell, on the subject of the St. John del Rey Company.—W. ROUTH: City, Nov. 14.

TO THE EIGHT HON. LORD JOHN RUSSELL, M.P.

MY LORD,—I take the liberty of enclosing your lordship a copy of a petition drawn up by me on behalf of the unfortunate slaves possessed, and hired, by the St. John del Rey Mining Company, at their establishment in Brazil, also a copy of a letter addressed to the Editor of the *Mining Journal* by Mr. Monach, who has recently arrived from thence. Your lordship will perceive that, unless vigorous measures are adopted by the Legislature of this country to compel the manager of the mine, in Brazil, to diminish the labour of the underground slaves, there is every probability that the mortality amongst them will continue as great as ever. And it is with a view to save the lives of these unhappy men that I venture to hope your lordship will present this petition at the ensuing meeting of Parliament.—I have the honour to be, &c., W. ROUTH.

ASTURIAN MINING COMPANY.—The prospects for the resuscitation of this important company, we are gratified to state, are of a less gloomy nature than for some time past has been the case. The labours of the committee of investigation, and the directors appointed as liquidators, are proceeding satisfactorily; and a successful issue may be anticipated from the result of their arduous labours. There is reason to hope that the hitherto complicated affairs of the company will be arranged, and the re-organisation be formed on a sure and solid basis. The next general meeting is fixed, we understand, for the 27th instant, when a full report will be submitted to the shareholders. The Spanish Government are disposed to treat the claims of the English shareholders fairly and equitably, and although they cannot rescind the decree of the 26th June last, there is no doubt the difficulties, which it was supposed to give rise to, will be obviated by the conciliatory spirit of the authorities. The formation of the new company, if successfully carried out, which, in all probability, will take place, will secure to the old shareholders a prospect of the return of capital which they have invested in the present concern.

COMPANY OF COPPER MINERS IN ENGLAND.—The labours of the committee of adjudication, though still progressing favourably, have not arrived at a final termination so soon as anticipated, there still remaining some dissents among the different classes of share and debenture holders. The suit of Warner v. the Governor and Company of Copper Miners, which was to have been heard only this term, has been deferred. Should the company succeed in obtaining a modification of their charter in the ensuing session of Parliament, it is conjectured all difficulties in the way of a final settlement, and the resuscitation of the company, will be removed.

ELBE COPPER-WORKS.—The *Alfred* barque, which sailed some days since from Plymouth, with German emigrants, among whom was the Prince of Schleswig Holstein-Noer, is the property of Messrs. Godefroy, of Hamburg, who are large shareholders in these works. From authentic information, we are enabled to state it is the intention of the proprietors to endeavour to obtain Australian ores to smelt in Hamburg. A gentleman from the Elbe Works was in England last spring, and endeavoured to treat with the Australian Mining Company, and several other foreign companies, for a supply of ores to Hamburg. The negotiation was not completed, owing to there being, at that period, no Australian ores in this country; but a purchase of 200 tons of Cobre was effected. The supplies obtained from South America not being sufficient for their extended plant, it is their intention to endeavour to treat with some of the Australian mining companies in Adelaide.

THE LOETCHEN VALLEY SILVER-LEAD MINING AND SMELTING COMPANY.—The shareholders in this company having, by the payment of the second call, completed the amount of 50L paid up on their 100L shares, have had their certificates delivered to them.

CALIFORNIA—MORE GOLD.—A letter from New York says, that advices have been received from a party of overland emigrants on their way to California, announcing "that they had found on the Gilia River indications of gold to a degree quite unsurpassed even on the Sacramento. This idea of gold on the Gilia has been some time popular, and the reports of occasional travellers have strengthened it. For my part, I see no reason to doubt that the whole western slope of the mountains in North and South America, from Behring's Straits to those of Magellan, contain gold, more or less in quantity, as certain species of formations develop themselves, in their own disorderly shapes, projected by volcanic action from their original conformity. I do not doubt that all the rivers and their alluvials, from California down to the isthmus, will be thoroughly explored in the course of a few years, and this will be done by large bodies of men, separated into countless exploring parties. We can easily imagine what a state of things this will produce: California will be but an outpost of the great army of adventurers."

ORDER FOR ENGLISH CANNON AT THE ROYAL FOUNDRY AT LIEGE.—Amongst the Royal decrees of the 31st October, we find the following:—The Minister of War is authorised to have cast, at the Cannon Foundry at Liege, on account of the English Government, three 32-pounders, 6 ft. (English) in length, in cast-iron, each weighing about 1,598 kilos, and three 32-pounders, 9 ft. (English) in length, in cast-iron, each weighing about 2,589 kilogrammes.

NEW STOVES.—At the annual exhibition of the American Institute, some stoves were exhibited, of a novel character; they are of numerous handsome patterns for warming chambers, cooking, heating water for baths, &c., by the consumption of anthracite. The object obtained in their construction is the largest amount of heat, from the smallest quantum of fuel. A kitchen range is so planned, as to constantly keep up a large supply of hot water, so that every family may always have hot baths ready with great facility.

DIED.—At Dwyfawn, North Wales, on the 4th inst., Catherine, wife of Capt. Verran, formerly of Devoran, near Truro, aged 49 years.

New Patents.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

- R. Parnell, city of London, clothier, for a new instrument for facilitating the stitching and sewing of woven fabrics.
- J. Chertserman, of the firm of Messrs. Cutts, Chertserman, and Co., Sheffield, mechanist, for improvements in carpenters' braces, and other tools and instruments used for drilling and boring purposes.
- C. Cowper, Southampton Buildings, Chancery-lane, for improvements in machinery for producing figures in relief.
- L. A. Duperray, 119, Faubourg du Temple, in Paris, engineer, for certain improvements in manufacturing leather.
- A. V. Newton, Chancery-lane, county of Middlesex, mechanical draughtsman, for improvements in manufacturing leather.
- C. L. Mead, Hamburgh, now residing in the city of London, merchant, for improved modes or methods of applying galvanism and magnetism to curative and sanitary purposes.
- G. E. Donisthorpe, Leeds, manufacturer, and J. Milnes, Bradford, county of York, for improvements in apparatus used for stopping steam-engines and other fast movers.
- G. J. Pownall, Esq., Kensington, for certain modes or methods, or certain modes or methods of ascertaining or registering the number of persons entering in or upon passenger conveyances and passage ways, and the instruments and apparatus for effecting the same.
- W. Brindley, Nelson-Terrace, Twickenham, county of Middlesex, paper maché manufacturer, for improvements in producing ornamental designs on paper maché, and in preserving vegetable matters.
- W. Buckwell, Artificial Granite Works, Battersea, engineer, for improvements in manufacturing pipes, and other structures artificially in moulds, when using stone and other materials.
- S. Stocker, High Holborn, hydraulic engineer, for improvements in beer engines, beer measures, and tobacco boxes, used by publicans.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

- G. Davis, Bear-lane, Leeds, a merciful steam and hydraulic pressure gauge.
- E. Golding, Hurstbourne Priors, Andover-road, Hants, the rolling barley chopper.
- R. W. Jeppard, Oxford-street, London, washing apparatus.

PATENTS RECENTLY EXPIRED.

- J. Ericsson, London, civil engineer, for an improved instrument for ascertaining the depth of water in seas and rivers.
- J. W. Fraser, London, artist, for improvements in apparatus for descending under water.
- N. Troughton, London, gentleman, for an improvement in finishing ornamental walls, and other ornamental surfaces.
- J. Cropper and T. B. Milnes, of Nottingham, for certain improvements in machinery or apparatus for embroidering or ornamenting bobbin-net, lace, cloths, stuff, or other fabrics made from silk, cotton, wool, flax, or hemp.
- J. J. C. Sheridan, Walworth, chemist, for certain improvements in the several processes of saccharine, vinous, and acetic fermentation.—*Patent Journal*.

DERWENT IRON-WORKS.

A dispute between the colliers and their masters at the Consett and Crookhall branches of the Derwent Iron-Works, in the county of Durham, has ended in a manner very disastrous to a large population, which it will throw out of work, it is feared, for the winter at least. The nature of the dispute is understood to be as follows:—Last month, the colliers at Consett and Crookhall pits manifested a desire to have the wages for hewing coals raised. Being bound for 12 months to work on certain conditions by a bond expiring next April, the men did not openly demand more wages; but raised disputes on various pretexts, and left off work. The managing proprietor, Mr. W. Cargill, considering that the wages were sufficient, as mere lads could earn 4s. 6d. a day for an ordinary day's work, declined to alter the conditions of the bond, and sent several men to Durham Goal for absenting themselves from work without notice. One prisoner was soon rescued from the charge of the police, and a desperate assault committed, for which a number of men were committed to take their trial at the ensuing assizes. The masters then offered the colliers their quittance, if they chose to remove and find better conditions elsewhere. The men did not choose to avail themselves of this, and preferred staying. It seems that the men then entered on a combination to work only half the usual quantity of coals, and to threaten all those not in the union with their displeasure. By this move it was intended to diminish the quantity of coal in stock so as to interrupt the carrying on of the operations of making iron; and when the stock of coals was diminished, the colliers considered they would be in a position to dictate terms to their employers.

Mr. Cargill, considering the colliers to have ample wages, and to be in the enjoyment of great advantages, having work found for them 12 days in the fortnight, resolved not to be tyrannised over by what he considers an improper combination in the men to compel their employers to alter an existing agreement, and he has determined to lay in the greater proportion of the works until the colliers choose to break up their union, and resume their work in the customary manner. Notice of dismissal was accordingly given last Saturday to more than four-fifths of the men employed at the various departments of these extensive works, and thus a vast number of people are thrown out of employment in consequence of a combination among the colliers—an insignificant section of the community there, and who, it is alleged, are the only class of men earning high wages. The result is a very unfortunate one, and has thrown consternation among a large and populous district.

GOVERNMENT INSPECTION OF COLLIES.—At a large public meeting of the colliers of Northumberland and Durham, held on Thursday last, it was resolved, that Mr. Jude should address Mr. Phillips, the Government Commissioner, expressing their entire disapproval of the plan adopted of selecting only a few pits for examination; and a deputation waited upon Mr. Phillips, by whom they were courteously received, to arrange plans for future inspections—at all of which they wished two of their body to be present. We are glad to find, however, that Mr. Phillips declined to fall in with the dictation evidently endeavoured to be thrust upon him by Mr. Martin Jude and his satellites; and we have no doubt, instead of selecting a "few pits," his district will be generally and impartially inspected and reported on. With respect to the tracts on the necessity of legislative interference

Current Prices of Stocks, Shares, & Securities.

STOCK EXCHANGE, Saturday morning Eleven o'clock.				
Bank Stock, 7 per Cent., 199 8				
3 per Cent. Reduced Ann., 92 8				
3 per Cent. Consols Ann., 93 4				
3 1/2 per Cent. Ann., 93 4				
Long Annanies, 82 4				
India Stock, 10 1/2 per Cent., 250				
3 per Cent. Consols for Acc. 934 4				
Escheq. Bills, 1000l., 1jd. 51 48 51 pm.				
Ditto 3 per Cent., 35				

MINES.—The mining share market continues firm, and the transactions have been of an average amount. Levant, Condurrow, Bedford, South Frances, and other leading mines, have been in request.

In Devon Great Consols, several transactions have taken place, arising, no doubt, from the quotations of late. We have made inquiries, and learn from the most authentic source, that the mines are much improved, and notwithstanding the depression, there is at present \$15,000 worth of ore discovered, being upwards of 115,000 ft. more than reported in May last. The improvements and discoveries recently made in the mines are—Wheat Maria, in the 50 fm. level, west of Gard's shaft, is worth 80/- per fathom. At Fanny, a cross-cut has been driven at the 15 fm. level, and intersected the lode, worth 20/- per fm. The 45 fathom level, west of western shaft, is considerably improved, and now worth 180/- per fm.; the rise in the back of this level is worth 100/- per fm. At Josiah, the 90 fm. level, west of Hitchin's engine-shaft, the lode is producing 8 tons per fm. In Richards' shaft, the 80 fm. level west, is worth 35/- per fm.; in the winze below this level, worth 60/- to 70/- per fm., and in a winze further west, the lode is worth 140/- per fm. These improvements, with the great saving anticipated by the introduction of water power, instead of steam, will, when completed, make a credit of some importance in the next balance sheet.

By private letters from East Wheal Rose, we learn that the mine continues to improve in several important points, and that future dividends are likely to be increased.

Shares in the following mines have changed hands during the week:—Devon Great Consols, East Wheal Rose, Tincroft, Trelewlyn, West Caradon, East Wheal Crofty, Trewhane, West Wheal Jewel, Treviskey and Barrier, Condurrow, Bedford United, East Tamar, Daren, South Tamar, Mendip Hills, Tamar Consols, Stray Park, &c.

At the general meeting of Wheal Trelewlyn shareholders, the balance-sheet for June, July, and August, showed a profit of 1047L 9s. 8d., which, added to the balance left from last account, allowed a dividend of 4/- per share, and carrying to credit 566L 12s. 7d. The agent's report of the mine is satisfactory.

At Wheal Mary Ann account for the three months ending August, the statement of accounts showed a profit of 968L 11s. 5d., and the balance left from last account amounted to 1017L 19s. 8d. A dividend of 25s. per share was declared, and 1000l. the balance of the bonus paid to the land proprietor, leaving the sum of 846L 11s. 1d. to next account, when an increased dividend may be expected. The mine is represented as much improved.

At North Roscar bi-monthly account, a dividend of 5/- per 140th share was declared, leaving a balance of 224L 10s. 10d. in hand.

At the Devon and Courtney Consols account, a call of 5s. per share was made. The prospects of this mine is certainly more encouraging, and we trust the enterprising holders may be amply remunerated. There was a balance against the company of 124L 16s. 6d.

At Heington Down Consols bi-monthly meeting, a call of 2s. per share was deemed necessary. There was a balance in favour of the mine of 102L 17s. 11d. The report of Mr. J. H. Hitchens breathes the same sort of confidence expressed at the reconstituting of the present company, and we sincerely hope the whole will be realized.

At the Kingsett and Bedford meeting, a balance was shown of 56L 12s. 10d. in favour of the adventurers, exclusive of 59/- arrears of calls. A resolution was passed, empowering the committee to make a call of 10s. per share, by two instalments. The agent's report of the mine is highly favourable; many farms of excellent ore ground have been laid open, and arrangements made to bring this productive lead lode into efficient working.

At Wheal Bal account, for July, August, and Sept., the balance-sheet presented 162L 5s. 11d. against adventurers, and a call of 30s. per share was made.

At the half-yearly meeting of the Imperial Brazilian Mining Association, the statement of receipts and expenditure showed a balance of 2249L 18s. 10d. in favour of the company, for the half-year ending 30th June, there being also a reserved fund of 25,000L, and 20 shares, with some other items included in the assets of the company. The returns of gold for the above period, from the two mines of Gongo Soco and Banana, amounted to 240 lbs. 1 oz. 9 dwt., which realised 9148L 8s. 6d. The directors' report may be considered satisfactory, and upon the whole, encouraging, inasmuch that the expenditure has been lessened, and the probability of returns increased, arrangements having been entered into with a party for reducing the immense quantity of jactating, which is found at Gongo Soco, upon terms favourable to the company.

We have received the following information from the Welsh mining district, the correctness of which may be depended on; though brief, the remarks will be interesting:—THE COURT GRANGE machinery went to work to-day; everything went on satisfactorily. Good ore in Pony-cenfau 30 fm. level, east and west of engine-shaft; good ore in sinking the engine-shaft under the 10 fm. level, at Liettythen.—DAREN MINE: The lode in the stopes, in the levels on the eastern side of the hill, is improving; appearance of ore in a cross-cut from the old workings southward, on the western side of the hill.—BWLCH CONSOLS: Very good ore in the 30 and 35 fm. levels, west of the engine-shaft, yielding 25/- to 30/- worth of ore per fm.—PENRHIR: Good ore coming into the 26 fm. level, driving west of the engine-shaft.—GROGWYNION: Very good ore in the stopes on the north lode, and good progress making in clearing through the old mine.—TYLLWYDD: Stopes yielding 10/- worth of ore, over the adit, per fathom.—CWM EIRIN: Very good ore in the backs of the 20, east of the engine and middle engine-shaft, and good ore in the 20, east of the middle engine-shaft.

In foreign shares the principal transactions have been in Copiapo, St. John del Rey, Imperial Brazilian, National Brazilian, and United Mexican; and in these the bargains have been limited.

The Alten Mines report has been received; and the estimated produce for September is given at 2045 tons. The surface operations of the mines are suspended for the season by the approach of winter. The Raipas Old Mine and Michell's continue producing a fair proportion of ore; and the improvements noted in former reports may be considered unaltered.

Letters from the Linares Silver-Lead Mines to the 2d, have been received, reporting more favourable progress in working, with some encouraging points as they proceed.

COMPOSITION FOR SHIPS' BOTTOMS.—The iron bottom of the *Bloodhound* steam-vessel becoming dry, the respective merits and demerits of the different compositions on her port and starboard side were distinctly apparent. On Mr. Hay's side the composition is hard, smooth, and so little affected by action of the salt water, that even the marks made by the hairs of the brush in laying on the last coat of varnish are still strongly defined, nor is there the least appearance of rust on the iron plates. On the opposite side, on the contrary, not only were the roots of the growing weeds firmly imbedded, but when scrubbed off, the composition appeared, in a great measure, to come off in the scrubbing, and when the iron plates became dry, they were found to be very much corroded. This side, therefore, will now be scraped clean, and Mr. Hay's composition will alone be applied, the one previously operated on by him receiving a single coat as a refresher, and the other going through the entire process of the three several coatings.

OVERLAND ROUTE TO THE PACIFIC.—The proposal for constructing a road, and whether it shall be a common carriage and footway, or a railroad, with block shelter-houses at certain distances, is still engaging lively attention in the States, and forms a theme of much discussion in Congress. It is undoubtedly a question of vast importance, and one not to be hastily decided. A space of above 1500 miles from St. Louis will have to be traversed, over plains, mountains, and deserts, the greater portion destitute of timber, or of any sufficiency of the necessities of life. If, however, it be true, as is stated, that an extensive field of Cannel coal exists at the foot of the rocky mountains near the Platte river, the want of timber would be no longer felt, and the road once carried onwards, population and industry would follow in its track. This has hitherto been the route of emigrants by the south pass, the Salt Lake, and the Great Basin, and the large salt deposits for 100 miles along the shores of the lake, the iron and other metallic ores in the mountains, in connection with the coal-fields mentioned, will, at no distant day, probably render these extensive regions one vast hive of human industry. The success of the Mormons in their valley shows the inexhaustible richness of the soil; and a railway along the above-named route would bring into abundant cultivation millions of acres on each side its course, besides developing the mineral treasures of the country.

A CHEAP BRANCH—HOW THEY DO THINGS IN AMERICA.—We quote the following from the American *Railroad Journal*:—“*Memphis Branch Railroad, Georgia.*—We have heretofore omitted this road in our list. It extends from Kingston, on the Western and Atlantic road, to Rome, on the Cassa River—a distance of 18 miles. It is laid with a flat bar, weighing 30 tons to the mile, and cost about \$6000 per mile. C. M. Pennington, Esq., is chief engineer.”

SALE OF A RAILWAY.—The *Philadelphia Ledger* says that a sequestor, under a special Act of the Legislature, sold at the Exchange in this city, Wilkinsport and Elmira Railway, in Lycoming county, in this state, valued at \$7,000,000, to Archibald Robertson, for \$1000! Should the purchaser fail to complete the railway, so as to connect with the New York and Erie Railway within five years, the stockholders resume the franchises of the corporation by paying back the amount expended by the purchasers.

PRICES OF MINING SHARES.

BRITISH MINES.					BRITISH MINES—continued.				
Shares.	Company.	Paid.	Price.		Shares.	Company.	Paid.	Price.	
1000 Aberglaslyn	...	9	9		200 Rosewarne Mines	...	12	12	
1024 Alfred Consols	...	92	12		3048 Buauford Coombe Tin	...	5	5	
1000 Antimony & Silver Lead	5	—	10		9000 South Tamar	...	1	24	
1024 Ashburton United Mines	81	12	12		123 South Caradon	...	5	200	
1024 Ballewidden	...	9	18		1100 South Dolcoath	...	5	41	
1000 Baldwin Consols	...	42	50		256 South Friendl. Wh. Ann	...	28	30	
1000 Barristown	...	6	12		256 South Molton	...	5	12 13	
3650 Bawden	...	1	2		256 South Tolgus	...	16	64	
6000 Beaupre	...	1	1		256 South Trelawny	...	284	5	
4099 Bedford	...	23	31 4		3000 South Wales Mining Co.	...	4	14	
1289 Birch Tor & Vitifer	102	10	10		128 South Wheal Bassett	...	204	380 400	
2500 Black Craig	...	6	10		124 South Wh. France	...	160	280 300	
8000 Blaenavon	...	50	10		256 South Wh. Josiah	...	12	5 6	
5000 Blisland Consols	...	1	2		1000 South Wh. Maria	...	24	14	
1000 Botallack	182	30	10		10000 Southern & Western Irish	...	24	4	
120 Brewer	...	5	24		124 St. Ives Consols	...	30	40	
256 Brimpton Tin	...	24	24		128 St. Michael Penkivel	...	5	104	
10000 British Iron, New Regis	12	—	8		94 St. Minver Consols	...	80		
— Dilto, ditto, scrip	10	10	10		128 St. Michael Penkivel	...	5	104	
2400 Bryn Arlan	...	2	6		99 St. Minver Consols	...	1	6	
10000 Camborne Consols	...	7	10		10000 Tavy Consols	...	3	81	
10000 Callington	...	22	7 8		1024 Tavy Consols	...	6	14	
10000 Camborne Consols	...	7	10		6000 Trecroft	...	12	12	
10000 Carnon Consols	...	22	10		128 St. Trelawny	...	170	10	
10000 Carnon United	...	24	5 8		120 Tocraeine	...	8	10	
10000 Carnon Wm. Hooper	...	21	21		256 Tregardon	...	31	44	
10000 Carnon Wm. Hooper	...	15	19		128 Tredegar	...	20	28 30	
3000 Cartwheel Consols	...	14	17		5000 Tredegar	...	6	34 8	
10000 Cauneron's Steam Coal	...	1	1		2000 Trenance	...	3	—	
256 Caradon Mines	...	22	10		1024 Trewyn	...	2	24	
10000 Combe Valley Quarry	...	45	50		1000 Tyllwyd	...	2	24	
10000 Copper Bottom	...	12	12		200 United Mines	...	50	155	
10000 Court Grange	...	7	10		206 Wellington Mines	...	25	35	
242 Cradock Moor	...	28	3		128 West Buller	...	10	275	
128 Creag Draws	...	120	30		256 West Caradon	...	20	105	
500 Cubert Mine	...	12	—		512 West Fowey Consols	...	40	12	
1000 Cwm Elin	...	35	33		512 West Providence	...	9	28 30	
7100 Derwent	...	82	92		120 West Seton	...	45	180 190	
845 Devon Courtney Cons.	...	12	14		120 West Trellech	...	5	5	
1024 Devon Great Consols	1	185 190			120 West Wh. France	...	13	3	
1000 Dhuadro	...	2	8		256 West Wh. Friendship	...	9	8	
182 Doicatai	...	30	15		1024 West Wh. Jewel	...	12	14	
2560 Drakon Walls	...	52	3		256 West Wh. Trellech	...	80	74	
1000 Dartmoor County Coal	...	45	—		256 West Wheal Treasury	...	27	10 15	
3000 Dwyngwm	...	10	10 12		1024 Whicklow Copper	...	5	82	
512 East Alvenny	...	1	1		1024 Wheat Bray	...	14	2	
2500 East Birch Tor	...	3	3		1024 Wheat Blawcock	...	10	10	
1024 East Bodmin	...	1	3		2324 Wheat Calstock	...	9	20 25	
112 East Caradon	...	47	47		1024 Wheat Foreside	...	15	27	
1024 East Crownland	...	6	4		1024 Wheat Penzance	...	24	25	
1024 East Fowey	...	15	75 89		1024				

NOTICES TO CORRESPONDENTS.

* We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

WHEAL ANDERTON.—The quotation of 5d. per share in this mine, as published in our Journal on the 3d inst., was, we are assured, perfectly correct.—Mr. H. B. Bye, of Old Broad-street (the broker who forwarded the price), being then prepared to dispose of shares on such terms. The same amount is also alluded to as the price, in a paragraph among our "Notabilia," in this week's Journal.

I. S. (Neath).—The original manufacturers of the B.B.H. iron were Messrs. Bradley, Barrows, and Hall, of West Bromwich. Some of the partners are dead, and the partnership is dissolved; but iron with the same mark is still made at the foundry. A quantity of the best Stafford iron, termed Albion iron, is made by Walter Williams, of West Bromwich.

R. C. G. (Gunnis Lake).—The merchants' price of red ochre varies from 4s. to 8s. per cwt. We shall be better able to determine the value when we receive the sample.

J. B. (John-street, Glasgow).—The bottom of her Majesty's yacht tender, *Fairy*, was examined on the graving slip at Portsmouth Dockyard the 25th of September last. Mr. Hay, the practical engineer of the yard, and Mr. Peacock, of Southampton, had each a side of the bottom to pay over with their respective computations. On examination it was proved that Mr. Hay's side was quite clean and free from grass; while that of Mr. Peacock's was covered with grass and seaweed three or four inches long. It is stated that the Lords of the Admiralty have given permission to Mr. Hay to patent his successful invention. A letter, directed to Portsmouth Dockyard would, no doubt, reach him. A notice of the survey appeared in the *Mining Journal* of the 29th September.

ELECTRICITY.—**W. R.** complains that the verbiage of our answer to "Electricus" is incorrect and incomprehensible. We always endeavour to obtain for our correspondents information derived from the most authentic and correct sources. The answer to the question of "Electricus" was taken from the result of Poggendorff's experiments, quoted in page 350 of Professor Leopold Gmelin's *Handbook of Chemistry*, translated by Mr. Watts, of the Birkbeck Laboratory, London University, and published in the present year under the auspices of the Cavendish Society. As this quotation, from such high authority, was a complete answer to the question of "Electricus," we thought it would be an act of presumption to endeavour to amend it by any interpolations of our own, which possibly might have rendered it really as incomprehensible as it is at present appears to "W. R."

THE DEMELZA MINE.—**J. S. (Manchline, N.B.)** enquires if we know anything of this mine, in which he is a shareholder—as he can neither get dividends or obtain any information respecting the proceedings of the company. Perhaps "**J. S.**" will forward us a list of the directors, or a copy of the prospectus, when we will endeavour to ascertain some particulars.

ATMOSPHERIC TRACTION.—We have received two or three further communications upon the subject of Mr. Baige's air-engine, but, as we remarked in our last, the discussion on the invention must now terminate. We are induced to this resolve rather to prevent a recurrence to personalities, than to stay investigation upon a very interesting topic.

O. M. M. (Hamburg).—Furnace doors for reverberatory furnaces are of different sizes: those most common in use are 14 inches long by 11 broad, and 14 in thickness. The copper pots into which the plates are laded are 1 foot deep, 1 foot across at the bottom and 11 inches at the top, 17 inches long at the bottom and 16 inches at the top.

J. P. (Swansea).—An easy method of assaying copper ores for silver is—Sample 2 ozs., borax 1 oz., subcarbonate of potash 3 ozs., red lead, or litharge, according to the quantity of copper supposed to be in the ore, and charcoal in proportion to the quantity of oxide of lead.

H. Crawford (Islington).—Nitrogen is not known to us either separately in a solid or liquid form. The great repository of it is the atmosphere, of the whole volume of which it forms about four-fifths. It was discovered by Professor Rutherford, of Edinburgh, in 1772, and may be obtained by several processes, the object of most of which is to take away the oxygen gas from atmospheric air.

O. E. Read (Southwark).—A rumour has reached us, that Wheal Craddock, near Bear-alston, is about to be worked with some activity: we shall, no doubt, in the course of a few days obtain more correct information on the subject.

A Loser? (Broad-street).—In addition to the immense sums which were wasted on worthless foreign projects, it appears, from the official returns, that in the years 1845, 1846, and 1847, more than ten millions sterling were expended in parliamentary inquiries and contests by the different railroad schemes.

B. G. (Coventry).—A voltaic battery, strictly speaking, consists of associated pairs of dissimilar solids, such as zinc and copper. A single pair, or simple voltaic circle, like a single cannon in an artillery battery, is but an elementary portion of a voltaic battery, which is constructed by arranging several pairs together. The simplest voltaic battery, then, will consist of at least two pairs—i.e. of four plates, two of zinc, and two of copper. In arranging these, two glass beakers, or drinking tumblers, are taken and placed side by side, half full of diluted sulphuric acid. A wire is then soldered to one of the zinc plates, and a corresponding wire to one of the copper plates; and one of these plates is placed in each of the tumblers. The second zinc plate is thereafter soldered by one edge to the second copper plate, so as to form one continuous surface of metal. The compound plate thus produced is then bent over, so that the soldered edge form the summit of an arch, which resembles a saddle with one flap, consisting of copper, and the other of zinc. This metallic saddle is placed astride of the approximated edges of the tumblers, so that the zinc flap dips into the vessel in which the first copper plate, with its wire, is immersed, and the copper flap into the tumbler containing the zinc plate, with its wire. If we wish to enlarge the battery, we take additional tumblers, and such copper-zinc arches as have been described, connecting the vessels half filled with dilute acid by the metallic bridges, which dip on either side into the liquid; taking care also that all the zinc semicircles, or saddle flaps, shall be turned in one direction, and all the copper ones in the opposite, so that zinc and copper succeed each other alternately, from the first tumbler at one end of the range, to the last at the other. In actual practice, porcelain, or wooden, or gutta percha cells, or troughs, are generally substituted for glass vessels, and the pieces of zinc and copper are merely soldered together, but only connected by moveable wires and binding screws. But these mechanical adjustments are only for greater economy and convenience, and the battery remains identical with the arrangement described.

G. Clarke (Dudley).—In the construction of the Britannia tube there have been required no less than 2,000,000 of bolts, averaging 1/8 of an inch in diameter and 4 inches in length. The quantity of rod-iron consumed for this purpose has, therefore, amounted in length to 126 miles, and in weight to about 900 tons. The sums expended by the Chester and Holyhead Railway Company, to the 30th June last, have been as follows:—Cost of tubular bridge for crossing the Conway, 110,000£.; ditto for crossing the Menai Straits, 500,000£.; remainder of the line, 2,971,587£.—making a total expenditure of 3,561,587£.; to this there is still to be added 200,000£., being the contribution to be paid towards the Holyhead Harbour of Refuge.

A Shareholder? (Cornhill).—The most abundant variety of copper ore is the yellow pyrite.

Mineralogists? (Islington).—Porcellanerde is known in England under the name of decomposed felspar. It is commonly yellowish, sometimes reddish white, occurs massive and disseminated in certain rocks, and is composed of small particles, which possess but slight coherency. It adheres to the tongue, and is soft and meagre to the touch. It often includes crystals of felspar, of quartz, and of mica, and is evidently derived from the decomposition of granitic rocks, and is infusible. The Saxon porcelain is made of clay from a bed in granite near Meissen, the Austrian from clay dug near Passau, and that of Copenhagen from the produce of Bornholm, an island in the Baltic. The porcelain clay of China is called Kiuolin. In Britain, a large tract of this clay, which includes crystals of felspar, quartz, and mica, exists near St. Austell, in Cornwall, on the south side of the granite range; it supplies the porcelain manufacturers of Worcester.

H. L. (Manchester).—Although you are an unregistered shareholder, the prominent part you have taken in the meetings of the company would, without any additional circumstance, be sufficient to fix the liabilities on you.

Eward Moline (Stock Newington).—The slate found in Scandinavia is of very inferior quality, and not at all fit for the English market. Slates, though in a small quantity, are imported here from this country, and would no doubt increase, if the duty was not so heavy, to protect their own manufacturers.

An Engineer? (Woolwich).—From the accounts generally given, it is not easy to form a distinct idea of the dimensions or construction of the Chinese bridges, or to what extent they merit the appellations bestowed on them by travellers, of being great and magnificent. The most remarkable one is erected at Suen-chou-fou, which is built over the point of an arm of the sea, without which the passage would sometimes be even dangerous in a boat. It is 2500 Chinese feet in length, and 20 in breadth; it is supported by 252 strong piers, 126 on each side. All the stones are of the same bigness, as well those which are laid from pier to pier as those which are laid crosswise, insomuch that it is difficult to comprehend how stones of such an enormous size should be placed in the regular manner, or even raised, on the high piers.

An Antiquarian? (Westminster).—The Corinthian brass so famous in antiquity, is a mixture of gold, silver, and copper, and is supposed to have been produced by the fusion of these metals, in which city abounded, when it was sacked and burned by Lucius Mummius, in the 156th Olympiad, about 146 years before the Christian era. Of this valuable metal but little is known. Its epoch of being in use must have been very short, as we are told by Pliny the art of making it had been for a long time utterly lost, and no remains of it are now in existence.

An Aeronaut? (Chelsea).—The idea of aerial navigation by means of vessels is not a modern idea. In the 56th No. of the *Evening Post*, Dec. 22, 1709, a description and diagram of a flying ship is given, invented by a priest of Brazil, Bartholomew Laurent. In his address to the king of Portugal, whom he prays for a patent, he states, "that by it one may travel 200 miles in 24 hours, carry orders to generals in remote countries, as also letters, recruits, provisions, ammunition, and money; supplying besieged places with all necessities, and transport merchandise through the air." This vessel, which was built with a square stern, and figure-head, was to have her sails drawn from stem to stern, in the form of a semicircle. In the bottom of the vessel were bellows, to propel her when the wind was slack. From each side of the keel were huge wings, to steady her, and the rudder was moveable. Between the sails and the deck was a cover, made of iron, in the form of a net, on which was fastened a quantity of amber beads, which, by some secret virtue, were to keep the ship afloat. At each end of the vessel were to be placed the celestial and terrestrial globes; these were of metal, and contained in them two loadstones, which were to draw, by their attraction, the ship after them, which was constructed of thin iron plate.

A Student? (Durham).—To obtain the oxide of osmium in a pure, solid, and crystallized state, grind together, and introduce when ground, into a cold crucible, three parts by weight of the insoluble powder, and one of nitre. The crucible is to be heated to a good red heat, on an open fire, until the ingrediens are reduced to a pasty state, when osmotic fumes will be found to arise from it. The soluble parts of the mixture are then to be dissolved in the smallest quantity of water necessary for the purpose, and the liquor thus obtained is to be mixed in a retort, with so much sulphuric acid, diluted with its weight of water, as is equivalent to the potassium contained in the nitre employed; but no inconvenience will result from using an excess of sulphuric acid. By distilling rapidly into a clean receiver, for so long a time as the osmotic fumes continue to come over, the oxide will be collected in the form of a white crust on the sides of the receiver, and there melting, it will run down in drops beneath the watery solution, forming a fluid flattened globule, at the bottom. When the receiver has become quite cold, the oxide will become solid and crystalline. One such operation has yielded 30 grains of the crystallized oxide, besides a strong aqueous solution of it. This may be agitated with mercury, and the product washed with hydrochloric acid, to remove the oxide of mercury which is formed. The osmium remains in the form of a metallic oxide, which acquires a metallic lustre by friction. When heated in the air, it burns into an oxide, and in its pulverulent state it is attacked by nitric acid; but after exposure to a red heat in close vessels, it becomes much less oxidizable. Osmium is extremely poisonous, and has an extraordinary influence on the brain and nervous system. Persons have been rendered delirious by inhaling osmotic fumes.

ST. JOHN DEL BET MINING COMPANY.—We have already announced our determination to admit no letters on the affairs of this company but those bearing the names of the writers affixed. We had resolved on this course, as best justice alike to the directors as to Mr. Routh and his friends. "A Shareholder," "A Constant Reader," and "Friend to the poor Slave," are inadmissible.

* It is particularly requested that all communications may be addressed—
TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, NOVEMBER 17, 1849.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

The great exposition of the industry of all nations, now tolerably certain to take place in the summer of 1851, is not only causing the warmest interest among the multitude of our own countrymen closely connected with arts, manufactures, and commerce; but an absolute excitement appears to have been created among our French and German neighbours. The writers in the newspapers of the latter appear quite elated with the grandeur of the idea, and look upon the approaching exhibition as a great step towards the permanent establishment of that universal bond of good-fellowship and peace which it is so desirable should exist among all tribes and nations.

The *Journal des Debats*, on the other hand, while it is loud in its laudation of the motives which have induced its promoters to exert themselves for carrying out the scheme, bitterly complains of the French authorities for not availing themselves, in February last, on the preparations for the last national exhibition, of the opportunity

of allowing England thus to take the lead. The writer observes—

"The honour of the splendid initiative taken by England, France, had it so chosen, might have reserved for itself some few months ago.

An exhibition of industry was opened in the bosom of France, which piques itself more than any other nation on being animated by a sentiment of fraternity towards other countries, which has talked so much about the holy alliance of nations, which since the revolution has indeed fraternal

amongst the national mottoes, and inscribed it on our monuments, and on

the standards which we show to our friends and our enemies. We might

then have attained for ourselves the honour of this universal exhibition; but we failed to do so, not because we did not think of it, but, deliberately and aforesight, because we did not will it.

The Government was invited to declare its sentiments on the subject; the affair was discussed in the Council of Ministers; the public was consulted through the medium

of the Chambers of Commerce and the Consultative Chambers; the press

argued and fought; the Government, in Cabinet Councils, made one last

effort; and yet all this movement ended in nothing—absolutely nothing.

The Prohibitionists, whose credit was already good before the revolution

of February, and who are now more than ever masters of the situation, did not will that the French nation, which (it is said) acquired all liberties in

February, 1848, should have the opportunity of comparing in the halls of

the exhibition the produce of its own industry with that of the English, the

Prussians, the Americans, and the Saxons. When they declared their will,

they were obeyed."

Whatever opportunities France might have had at the commencement of her last exhibition, they are now at an end. Her next does not take place for five years, and, in the meantime, every exertion must be made to render this exhibition in its gigantic dimensions, its broad liberalism, and its disinterestedness and glowing impartiality, a noble pattern to all nations. Perhaps there is no spot on the face of the civilised earth so peculiarly well situated for such an elucidation—such a gathering of the intelligence of the globe—as London.

Our great metropolis may now be almost termed the centre of the civilization of the world, with continuous and rapid communication with the vast continent of America to the west, across which instantaneous communication by electric telegraph will shortly exist from the Atlantic to the Pacific Oceans, with still more rapid means of intercourse through the old world eastward, when the same mysterious agency will shortly, probably, put us in instant converse with our Indian territories and the vast extent of Asia; every new impulse settles in her as a focus, from whence it radiates in all directions, to enlighten and improve mankind. No spot could, therefore, have been so appropriately available for such an exhibition, and the lot having been cast among us, we must show our brethren from other lands that warmth of real British hospitality, which shall engender feelings of true fraternity; and while we have no doubt the most strenuous exertions will be made to enter into spirited, and fair open competition, we trust every petty feeling of jealousy will be discarded, and the greatest unanimity prevail. Nationalities must here be lost sight of, and in the development of the industrial talent of the world, we must look upon all as the world's citizens, striving for the general good, and to discover the most profitable application of those vast stores in the agricultural and mineral world, with which Nature has so bountifully provided us.

The genial influence which these exhibitions have exerted in France, since the first took place in 1798, is evidenced by their continually growing importance, and increase of both exhibitors and visitors up to the last in 1849. Even while yet writhing under the convulsions produced by the Revolution of 1848, the last building, which was the largest ever erected for the purpose, and which was equal in extent to 5 acres 2 1/2 rods, was crowded with the productions, in every species of art and manufacture, of 4494 exhibitors, being an increase of 534 over the previous collection of 1844, which had in like manner eclipsed all others. This last exhibition was the first in which live stock and agricultural produce was admitted, and for which a separate large building was erected; but as the stock sent in was not near so extensive as was anticipated, portions of this erection were used for machinery.

The report of MR. DIGBY WIATT to the council of the Society of Arts, to which we briefly referred last week, shows, in a very striking manner, the importance which has ever been attached by the Governments of France, to the advancement of the arts and manufactures of the country. The traditions of excellence in manufacture reach to a very remote period. As early as the commencement of the 13th century her celebrity in the production of stained glass, goldsmith's work, Limoges enamel, carved ivory, and illuminated manuscripts, was proverbial throughout Europe. By the beginning of the 15th century the fine arts obtained an almost unrivalled development; and, under FRANCIS I., the union of the highest order of artistic ability, with the mechanical skill and experience accumulated during many centuries, stamped with a peculiar and unmistakeable character of perfection many of the celebrated productions of that period. It was at the second exposition, in 1801, that JACQUARD, whose name is rendered immortal by his loom, obtained a medal and a pension of 1000 fr. a year, afterwards increased to 6000 fr.; and it must be gratifying to our readers to learn, that it was from reading an advertisement of the Society of Arts, offering a premium, that he, then a straw-hat manufacturer, was induced to turn his attention to the study of that loom which has since rendered his fame so universal. To show the satisfactory results which have followed the incessant attempts of the Governments, during the past half century, to elevate the social and intellectual condition of all engaged in the great work of supplying the necessities, gratifying the tastes, and ministering to the resources and revenues of the country, we need but give the following table of the progressive advance of these exhibitions since the establishment of the first in 1798:

Order.	Date.	Days Exhibited.	Number of Exhibitors.	Number of Rewards.	Number of Decorations.
1	1798	3	110	23	25
2	1801	6	226	30	60
3	1802	7	340	254	119
4	1806	24	1423	610	119
5	1819	35	1692	809	352
6	1823	50	1642	1091	470
7	1827	62	1795	1284	455
8	1834	60	2447	1785	730
9	1839	60	3281	2295	855
10	1844	60	3960	3253	81
11	1849	66	4494	1618	52

The very large number under the head "Rewards," in the two exhibitions of 1839 and 1844, were not all medals and money prizes; a large number were recognitions of merit engraved on parchment. The 1848

of the exhibition of 1849 were all medals, of which 182 were gold, 340 in silver, and 896 in bronze. The entire results show a most stimulating effect on the manufacturing industry of the country, similar to what has, doubtless, been effected in the last few years in our own country, under the exertions of the Society of Arts, and through the instrumentality of the various exhibitions which have taken place in the large manufacturing districts. The approaching exhibition will, however, we think, eclipse all its predecessors, and probably have an equally enlarged effect on the manufacturing industry of the world.

We think the public at large, and the population of London in particular, are under great obligations to Mr. G. GUNNAR, for his happy and opportune exposition of the law of river tides. The law enunciated by that gentleman is, we believe, in substance this: that the descending momentum of a tidal stream is greater, and more sustained, than in its ascending direction. If, for instance, a stream ebbs over a bed of 36 miles in length in 30 hours, the flood tide will carry the same body of water back, about 28 miles only, in the same period; and by the two ebbs in the 24 hours, the body of water which, at the commencement of the first ebb, was at any given

storms of rain, sudden melting of snow, &c., by which, in the event of any such sudden accumulation, it would open a trap at the mouth, and flow out into the river; and as these excessive floods happen but seldom in the neighbourhood of the metropolis, it would but slightly interfere with the purity of the Thames. A similar arrangement is made for the south side of the river, from Putney to below Greenwich.

While on this subject we cannot help alluding to a plan proposed by Mr. R. RETTIE, of Aberdeen, whom we have more than once had to deal with in our columns, and whose vulgar and ignorant interruption, at the Society of Arts, whenever he is present, has become proverbial. In blundering over a most unintelligible description of a most crude, and ill digested plan (if plan it can be called), in which the estimated expense is ridiculously low, he dictates to the commissioners, derides the efforts of the great body of our engineers, and, in the most egotistical manner, extols himself as the only individual who can save the inhabitants of London from pestilence and death. He says, "the greatest difficulty the commissioners labour under is the want of a first-rate working man, experienced in scientific knowledge, practical mechanics, and endowed with great good common sense, having a mind of his own, and conscious of being able to carry out a series of important inventions and improvements, which are absolutely necessary in this undertaking." Of course, this individual is Mr. R. RETTIE, and the "important invention and improvements" some of his own "scientific" emanations. We only wonder the commissioners allowed so insulting and inefficient a paper to be published; they have, however, well shown him off in capitals and italics, in all his most prominent sentences, and we wish him joy of this "appearance in print" in the Proceedings of the Commissioners of Sewers.

A novel plan has been proposed by Mr. CHARLES HUTTON GREGORY: it is to receive the sewage from the existing outlets in closed tanks, constructed to float up and down the river with the tide, and to discharge their contents into remote parts, independent sewers, or disinfecting reservoirs, at a distance. Mr. GREGORY recommends this plan as perfectly practicable, that the cost would be determinate, and it would avoid tunnelling through strata but little known, and that little showing great risk and incalculable cost. The majority of the plans are, we rejoice to see, proof that the engineering enterprise of this country is anything but on the wane, as they are generally such as might be practically carried out advantageously, the great point to decide next to efficiency being one of economy.

In another column will be found the particulars of an important case, tried before the Judges of the Common Pleas (Lord Chief Justice WILDE, and Justices MAULE, WILLIAMS, and TALPOURD), as to the construction of the Joint-Stock Companies' Act, and how far the rights and powers of companies are effected by errors or oversight on the part of the registrar. The BANWES IRON COMPANY brought an action against a shareholder named BARNET for the payment of 2400*l.* due for calls on shares held by him. The defendant pleaded that the company was not incorporated, inasmuch as the Deed of Settlement, at the time of its production to the registrar, did not contain the necessary provisions required by the schedule A of the Act, and that, therefore, the complete registration was void, and the plaintiffs out of court. The judges, however, decided on the contrary. Mr. Justice MAULE, in a long and lucid review of the case, said it was, undoubtedly, very important one, and the Court had given it their best consideration; the matter set forth in the plea did not prevent the company from acting as a corporation. Taking the 7th and 8th clauses of the Act together, there was no doubt but that it was the registrar's duty to make some inquiry, but he is to look to the face of the deed only, whether there appears anything deficient or inconsistent with the 7th and 8th VICTORIA chapter 110, or any subsequent Act. It might be assumed that the deed was not perfect according to the Act, and that the registrar came to a wrong conclusion; but he having determined that it did contain the necessary provisions, although it did not, and granted a certificate which he ought not to have granted, the company were, therefore, established in their rights as a corporation, and to decide otherwise would be productive of great inconvenience. He thought that the whole scope and spirit of the Act, and of the general law, should induce them to hold that, until dissolved by some sufficient cause, though the registrar might have been mistaken, the body remains incorporated. The deed was not to be taken as of no effect at all, but that as long as it remained unimpeached, the company presenting it must be taken to be a corporation. This, undoubtedly, is the common sense view of the subject; for as errors and omissions might creep into a deed by accident, which it would be the registrar's duty to have discovered, if he overlooked them, and granted a certificate on which the company proceeded to act, it would be anything but just that they should then be disengaged through the error of a highly-responsible official. In the present instance it has evidently been an attempt to evade payment of a fair share of the capital, because the company has not been prosperous, and this decision, it is hoped, will induce all who hold shares to pay their calls, that all may bear their portion of the burden. We believe this is the first case of the kind under the Act, and will probably prove of importance.

THE SPANISH QUICKSILVER MINES.—The quicksilver contract, which has been in abeyance for a long time, is again to be submitted to public auction on the 1st December next. Two years since it was taken by the Bank of Fomento, which was subsequently unable to fulfil it, and succeeded in getting it rescinded. It was afterwards put up again, when no bidders came forward at the minimum price fixed by the Government; and since then the quicksilver produced by the Almaden Mines has been forwarded to London, and sold on account of the Government by the houses of Rothschild and Baring, who are stated to have 33,583 quintals in their possession. The contractors are to receive this amount at the same price as they agree to pay for the future proceeds of the mines, which are fixed at 12,500 quintals per annum as a minimum, but have a right at their option to receive 20,000 quintals; and if the mines do not produce so much in any one year, the Government is to make it up from the produce of the succeeding years; the contract to last for four years, commencing on the 1st November, 1849, and terminating on the 31st October, 1853. The 33,583 quintals in London, less any portion that may have been disposed of previous to the taking of the contract, to be paid for in cash, at a month's date, to the President of the Spanish Finance Commission in London, and the future proceeds to be delivered, as usual, at Seville, and paid for in cash the day after the presentation of the receipts in Madrid; the Government to allow 6 per cent. interest upon the money advanced upon the quicksilver in London. The fourth clause states that the 6 per cent. is to be paid in this form:—In the 1st year upon 25,189 quintals; 2d ditto, 16,792; 3d ditto, 8396 quintals; the interest to be paid at the end of each year, being deducted from the amount which the contractor has to pay for the quicksilver received. The other clauses are as usual. In order to bid, \$100,000 must be previously deposited in cash in the Bank of San Fernando, on which 6 per cent. will be allowed, or, if preferred, 7,000,000 of Three per Cent. Stock, or 18,000,000 of Four or Five per Cent. Stock, may be deposited.

PRODUCE OF PRECIOUS METALS IN RUSSIA.—The product of the mines in the Ural Mountains, for the first six months of the present year, were 178 pounds 26 lbs., 26 oz. of gold; and 4 pounds 3 lbs., 29 oz. of platinum; of which quantities, 74 pounds, 12 lbs., 46 oz. of gold, and 3 oz. of platinum, were for account of the Crown. There was also produced 14 lbs., 12 oz. of iridium in combination with osmium, of which 2 lbs. were for account of the Crown.

AUERIFEROUS SANDS OF NEW GRANADA, THE URAL MOUNTAINS, AND CALIFORNIA.—In the *Comptes Rendus*, M. Dufrenoy has a very interesting paper on the auriferous sands of several districts, from which, in these gold-seeking days, much valuable information is to be obtained. The gold sands of New Granada collected in the valley of Rio Dulce, were found to consist of magnetic and titaniferous iron, zircon, and corundum, with 4 per cent. of matter, which is described as "opaque yellow, grey rock, probably quartz, iron pyrites and gold." The sands of the Ural Mountains contain less of the oxides of iron, and their richness in gold is estimated at 0.0026, while the sands of California are found to give a result of 0.0029. M. Dufrenoy states as a general result, obtained from his examination, that the gold sands of California appear to be analogous, as regards richness, to the auriferous diluvium of the Ural Mountains. He gives the following estimate of the probable results to be expected by an individual who devotes himself to gold digging. The products of the Russian mines being published officially, it is found that each workman produces annually about 64*l.* of gold. If from local circumstances, as in California, a man can work only about 200 days in the year, the net daily produce of such a workman would amount to no more than six shillings for each of those days.

IRISH COAL.—Coal of a very superior quality is now being raised from pits adjacent to the Arigna Mine, Roscommon. This fact affords another proof of the mineral riches which lie dormant in this neglected island, which so abundantly possesses within itself all the elements of national prosperity, and yet which mineral has plunged into such a deep abyss of poverty and abasement. Shall it be always so?—*Evening Packet.*

TO THE IRON MANUFACTURERS OF GREAT BRITAIN.

GENTLEMEN.—Your serious attention is requested to the following facts. The total exports of iron and iron goods, for the year ending January 5, 1848, were—

Of bar, rod, hoop, sheet, wire, nails, chains, anchors, cast and wrought goods—	389,595 tons.
The equivalent in pig-iron, allowing for all the loss and waste of the various processes, would probably be one-third more, or.....	700 511,460
Of pig-iron itself, the export was.....	176,086
Of hardware and cutlery, the export was 26,014 tons. Probably, the equivalent of this quantity in pig-iron would be double the weight, or.....	51,228
Of machinery and mill work, there was exported a value of 1,363,000 <i>l.</i> Calculating this at 30 <i>l.</i> per ton, it would give a weight of 42,100 tons, supposing it would take 30 cwt. of metal to make 20 cwt. of perfect machinery, this value would require of pig-iron a weight of.....	63,150
Of tin plates, the value exported was 462,889 <i>l.</i> Calculating the average value per box at 30 <i>l.</i> , this would represent 308,593 boxes. Taking each box to contain 1 cwt. of sheet-iron, they would contain a total of 15,429 tons of sheets. Supposing 14 tons of metal necessary to make 1 ton of perfect sheets, the total pig-iron requisite to make 462,889 <i>l.</i> value of tin plates will be.....	23,143

The total exports of iron and iron goods will thus require for their production of pig-iron.....

THE WELSH COLLERY CASE.

The long litigated dispute between the Duke of Beaufort and Mr. Morris was again argued during the past week. On Tuesday, it came before the Vice-Chancellor's Court upon further directions, after a trial at law before Mr. Justice Erie. The case was reported in our columns when it was before the court on the last occasion. The bill was filed by the duke, *quia timet*, to restrain an injury which was apprehended to his colliery, into which, he alleged, the defendant, who was his tenant, had opened a communication for his drift water. The defendant alleged that he had only exercised his rights in the mode in which he had worked his own colliery, and that the communication was not artificial, but of natural formation; and he denied that he was liable for injury against which it was the plaintiff's duty to protect himself. The court retained the bill for a year, giving leave to the parties to try the question hereafter at law.

Mr. W. M. JAMES (with whom was Mr. Dunvergues) appeared for the plaintiff. The bill was filed by the plaintiff as owner of coal mines in the basin of the Tawey, to restrain the defendant from making a communication or drift from a colliery, called Cae Grobros, to another colliery, called Pentre, whereby the water from the former colliery would be let into the latter, and from working his coal mines in such a manner as to injure and endanger the plaintiff's mines. The court, at the hearing of the cause, directed the bill to be retained for a year, giving the plaintiff liberty to bring an action. The action had been brought, and a verdict had been found for the defendant. It was now contended that this verdict was not in fact upon the real question at issue in the suit. The bill was filed to restrain a prospective injury which the defendant avowed his intention to commit, and the verdict in trespass of "not guilty" proceeded on the ground that the injury had not actually been done. The plaintiff now asked for an issue or another trial.

Mr. WALPOLE (with whom was Mr. Rasch) contended that the present application was an informal attempt to re-hear the cause.

On Wednesday, the case being called on for further argument, upon the question whether the trial at law had effectively decided the point as to the injury to the duke's mine, Mr. WALPOLE (for the defendant) stated that he understood a petition was about to be presented to the Lord Chancellor for a re-hearing, and suggested that it was desirable the present argument should be postponed until the Lord Chancellor had given his decision.

The VICE-CHANCELLOR doubted whether a petition for a re-hearing was necessary, where proceedings had been taken in order to satisfy the conscience of the court. He suggested that the desirable course to be taken by the parties was that which had been taken in a case before himself, of Dawson v. Paver, relating to a water-course.

After some discussion by the counsel for the Duke of Beaufort (Mr. James) and Mr. Walpole (for the defendant), it was arranged that the case should stand over, with liberty to the plaintiff to take such proceedings as he might be advised, with a view to further inquiry, during the present term.

WINDING-UP OF JOINT-STOCK COMPANIES.—Amongst the joint-stock companies before the Masters in Chancery during the week, to have their affairs settled and wound up under the provisions of the Act, has been the case of the India and Australia Mail Packet Company, projected with a capital of £100,000*l.*, and the business of which was carried on from 1847, to April, 1849, until the affairs became greatly embarrassed, and it could not be dissolved, the shareholders having paid up their calls to constitute a legal meeting for the purpose, and which was to be done whenever a loss of 75 per cent. on the capital for the time being was subscribed—the list of contributors, with the exception of some adjourned cases, have been settled. It appears that the deed was signed by shareholders to the extent of 1080 shares; the amount of deposit and calls paid was 3240*l.*; the amount received, 2833*l.*; the amount still due, 907*l.*; the number of shares on which the parliamentary deposit of £5*l.* was paid, but in respect of which the deed was not signed, was 2480*l.*; amount paid, 7290*l.*; received, 6482*l.*; and still due, 6647*l.* The total number of allottees who paid the parliamentary deposit was 4685*l.* Only 242 shares were taken in Madras, and 81 in Ceylon. The only assets are 397*l.* under a distressing, and a call has been made on the contributors to pay off outstanding claims, which amount is to be between 2000*l.* and 3000*l.*

GREAT WESTERN RAILWAY OF BENGAL.—The winding-up of this company's affairs, under the provisions of the Joint-Stock Companies' Act, came on for hearing on Wednesday, before the Master in Chancery, Dowdeswell, at his chambers, in Southampton-buildings, Chancery-lane. The petition in support of the proposed process, verified by affidavit from Major-General M'Leod, of Clifton-place, Hyde-park-gardens, the chairman, and Robert Wolesley, of Guildhall-chambers, Basinghall-street, the secretary to the company, sets forth, that the undertaking was projected and provisionally registered in April, 1845, for carrying out railway communication from the River Hoogly, near Calcutta, to Rajmahal, on the Ganges, with a branch to Burdwan—proposed capital 4,000,000*l.*, in 80,000 shares, of 50*l.* each, deposit 5*l.* per share. Shares were allotted to a large number of persons who paid the deposit, which were applied in the affairs of the company, and in August, 1845, a subscribers' deed was executed, to which Major M'Leod subscribed to the extent of 1000*l.* The directors deferred making any application to Parliament for an Act of Incorporation, not finding it practicable; and on the 30th of July last, at a meeting of the directors, at which the chairman presided, a resolution was passed to the effect that the company be wound up under the provisions of the Joint Stock Companies' Act, and the solicitor was authorised to present a petition to the court, and employ counsel for the purpose. On Wednesday, the various parties were in attendance for the appointment of an official manager to superintend the winding-up of the affairs of the estate. There were four propositions. Messrs. Freshfield, who appeared for a number of shareholders in the East India Railway Company, with which the Great Western of Bengal has been amalgamated, nominated Mr. Coleman, accountant; Mr. Wm. Galsworthy, on behalf of several allottees, proposed Mr. Quiller, accountant. Mr. James, for the petitioners, proposed Mr. J. H. Norris; and Messrs. Fry and Loxley, Mr. Ernest. After a discussion, the master adjourned his decision as to a selection.

JOINT-STOCK LIABILITY.—Few of our non-professional readers (says a correspondent of the *Yorkshire Gazette*) may be aware of the extent to which a husband is liable to pay the calls of a Joint-Stock Company in respect of shares held by the wife. I, therefore, beg to draw the attention of the public to a case which recently came before the Vice-Chancellor, Sir Knight Bruce. One Miss Todd happened to be an unfortunate shareholder in the North of England Joint-Stock Bank, at Newcastle-upon-Tyne, which has lately gained such great notoriety, in consequence of the gross mismanagement and unprecedent rascality of certain *quondam* directors, and the apathy of shareholders. This lady became entitled to shares in the above undertaking as legatee thereof under a will in 1838. In 1846 she married Mr. John Sadler, about a year after which the bank stopped payment, but he never interfered with the shares by the acceptance of dividends or otherwise; indeed, he studiously avoided doing so, lest he should incur the least liability, being doubtless apprehensive that the concern was rotten at the core. Notwithstanding this, the Vice-Chancellor has decided (*in ex parte* Sadler *in re* the North of England Joint-Stock Company, reported in 13 Jurist, 674) that the husband's name was properly included in the list of contributors under "the Joint-Stock Company's Winding-up Act, 1848," and he is thus involuntarily made liable to pay the excessive calls necessarily made by the official managers of the company. This may be said to be taking a wife "for better or worse," as it is so with a vengeance! Such a case as this would, I think, have been a *quietsus* for Mrs. Caudle. But, joking apart, the nature and extent of joint-stock liability here assumes a serious aspect; and, if I mistake not, this subject is likely to be numbered amongst the great commercial (if not social!) questions of the present day—is this unlimited liability to be continued? As the law at present stands I know not in what manner parties concerned, but not beneficially interested, can be protected from process, since it has also been decided (*ex parte* Hall *in re* the North of England Joint-Stock Banking Company, 13 Jurist, 691) that an assignment to a trustee on the trusts of a marriage settlement will not "save harmless and indemnified" the trustees, although such trust was not returned as registered owner to the Stamp-office, and notwithstanding he cautiously acted as agent, and did not comply with the requirements of the company's deeds.

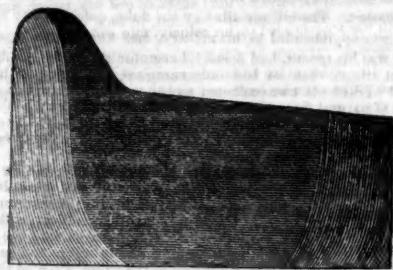
INCREASE OF COAL CONSUMPTION IN LONDON WITHIN ONE HUNDRED YEARS.—The records of the London Custom-house having been destroyed by fire, it is impossible to obtain, with any degree of accuracy, many of the statistical details of trade; but it happens, luckily, that the writer of a history of London, above 100 years ago, obtained from the Custom-house, at that time, an account of seven years' importations of coal into London. The preservation of this account enables us to give the following comparative statement of the importations into London within a period of 100 years:—

YEARS.	TONS.	YEARS.	TONS.
1726	632,470	1826	1,103,498
1797	553,815	1827	1,874,510
1798	710,223	1828	1,893,083
1729	658,744	1829	2,095,420
1730	610,913	1830	2,116,023
1731	633,893	1831	2,053,673
1732	600,757	1832	2,149,520

In 1838 the importation had increased to 2,582,770 tons; in 1845, to 3,461,199 tons; and last year it amounted to 3,418,340 tons. What an increase does this exhibit!—and what a commentary also does it supply to the denunciations of Sir John Evelyn and Sir Kenelm Digby—the one of whom declared that the smoke of London rendered it more like the "suburbs of hell, than an assembly of rational creatures, and the imperial seat of our incomparable monarch;" and the other, that its destructive properties absolutely rendered the metropolis like unto "Troy sacked by the Greeks" or as if it were visited by the "belching" of Mount Hecla!—*Gateshead Observer.*

THORNEYCROFT'S
PATENT RAILWAY AXLES, RAILS, AND TYRES.

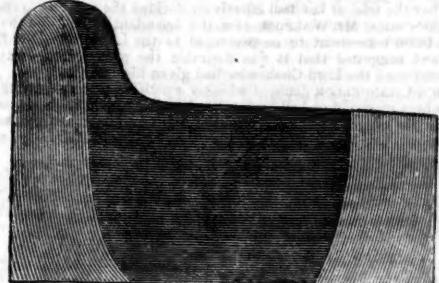
RAILWAY TYRE.—SECTION NO. 1, HALF SIZE.



The middle, or wearing, part of this tyre is composed of chrystraline charcoal iron, the hardest and soundest iron made. The outward edges are made from a mixture of India charcoal pig with the toughest fibrous iron—the whole made upon an improved principle into one homogenous mass. These charcoal tyres are warranted better and more durable than any tyres made in England.

Price—£15 per ton net at the works, up to 3 cwt. each.

RAILWAY TYRE.—SECTION NO. 2, HALF SIZE.



The middle, or wearing, part of this tyre is composed of the best refined chrystraline puddled iron.

The outward edges are of the best No. 3 fibrous iron, and put together upon an improved principle into one homogenous mass.

These tyres are warranted quite equal to any made in Staffordshire.

Price—£10 10s. per ton net at the works, up to 3 cwt. each.

BEST STAFFORDSHIRE TYRES.—£8 10s. per ton at the works, up to 3 cwt. each.

Fig. 1.

SECTION OF BRIGG'S PATENT COMPOUND AXLE.

Scale $\frac{1}{4}$ inch to a foot: parallel axle.

Price—£14 per ton net at the works.

Fig. 2.

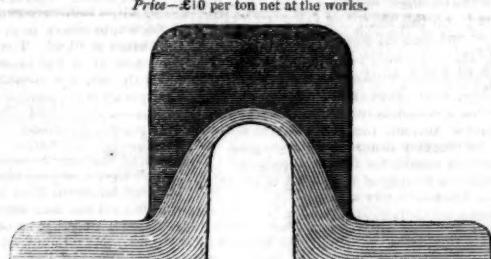
SECTION OF BRIGG'S PATENT COMPOUND AXLE.

Showing the extent to which the internal bar is welded solid at each end, drawn down in the middle half an inch.

Price—£15 per ton net at the works.

PATENT ANTLAMINATING CHARCOAL RAIL.—SECTION NO. 1, HALF SIZE.

Price—£10 per ton net at the works.



Patent Antilaminating Rails, made from the same quality as the best $\frac{3}{4}$ iron. Price—£7 10s. per ton net at the works.

The upper, or wearing, part of these two sections of rails is made from antilaminating charcoal iron, much harder than any other iron, perfectly free from lamina. The under, or fibrous, part from best No. 3 puddled iron.

PATENT ANTLAMINATING CHARCOAL RAIL.—SECTION NO. 2, HALF SIZE.

Price—£10 per ton net at the works.



Patent Antilaminating Rails, made from the same quality as the best $\frac{3}{4}$ iron. Price—£7 10s. per ton net at the works.

Rails of the same sections are made from puddled iron, quite free from lamina in the wearing part, but soft and less durable than charcoal rails.

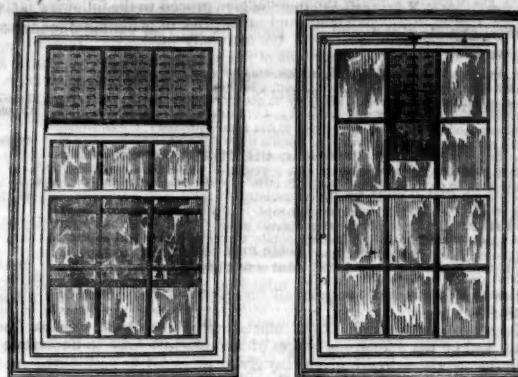
This principle is applicable to any kind of rails.

I beg to inform the railway public, that the machinery for testing the strength of axles, and the strength and soundness of the tyres, is now ready; and I offer it to the public without any charge for its use, to try any one's make of axles and tyres they may think proper. A machine has been designed, and is now making by Messrs. Fox, Henderson, and Co., for proving the quality and durability of tyres and rails by actual wear and tear, the same as when at work on a railway, at any speed you like. The name of the designer is, I trust, a sufficient guarantee for its efficiency; in fact, it will be so true a test, that it must prove satisfactory to the most farsighted mind; and, so soon as it is completed, it shall be offered to the public, on the same terms as the testing machine above-mentioned.

Shrubbery Iron-Works, Wolverhampton.

G. B. THORNEYCROFT.

LOCHHEAD'S PERFORATED VENTILATING GLASS.



In these days of enlightenment among the great majority of the population, and of a knowledge of even the more abstruse sciences among a large portion of the working and middle classes, it would be superfluous for us to attempt to elucidate the necessity of continuous supplies of pure atmospheric air for the support of health, and even life; yet how comparatively little is this great truth attended to in the construction of a majority of our dwellings, particularly those of the poor, in which, although in our courts and alleys the most pestilential vapours are continually generated in the apartments, where each family at most occupy but one room, there is no remedy but throwing open doors and windows—a practice which will not be followed up in cold and wet weather, and, consequently, pestilence, disease, and death ensue. The insensible permeation of air through wire-gauze, or other woven substance, has long been known, and was happily applied by Davy to the safety-lamp; but it was left to the patentee, Mr. Lochhead, to bring this valuable property of Nature into use for the sanitary purposes of ventilation.

We noticed this beautifully simple arrangement for the ventilation of dwellings, churches, assembly rooms, &c., in the *Mining Journal* of the 18th August last; and as it is now coming into very extensive use in public offices, hotels, &c., we feel much pleasure in again calling attention to the subject. The plan consists merely in perforating plate glass, while hot on the flattening table, by passing a second roller, having suitable projections at regular intervals, by which a series of oblong orifices are left in the plate, as will be seen by the accompanying diagrams. A window fitted up with this perforated glass has a most genial effect on the atmosphere within; for, while a copious current of fresh air is continually entering and displacing the vitiated vapour, which escapes through the upper perforations, the former is admitted in such divisional streams as to mix sensibly with the surrounding atmosphere, and prevents those cutting drafts so prolific of colds and rheumatism, and so physically unpleasant to endure. The perforated glass is made of three several qualities—No. 1, polished on both sides; No. 2, polished one side only; No. 3, ground on one side; and, as the perforations are effected with such simplicity and facility, nothing is added to the mere cost of the glass, the only extra expense being the trifling additional fittings. The perforated glass has, for some time, been in use at the Bank of England, Guildhall, Custom House, Royal Chapel, Greenwich Hospital, and other government and corporation establishments, numerous banks, churches, hotels, public and private offices, and the numerous testimonials from parties well able to judge of the effects produced, which have been submitted to us, are quite convincing as to the great importance of the introduction of this material. As an authority, we quote the opinion of Mr. Cockerell, the architect to the Bank of England. He says—"I have great pleasure in saying, that its application in my office, during six months, has been much approved, and that I consider it a very valuable invention for the health of densely occupied offices and apartments. The sub-division of the supply of air, and the facility of modifying, or wholly excluding that supply, by the movement of the upper sash, renders its use very easy and unexceptionable."

RAILWAY LOANS.

To persons desirous of permanently investing in railway property by loans on debentures, and other guaranteed security, the following list of such companies as are open to receive tenders, with the terms of years and rate of interest, will be of service:—

GRAN WESTERN.—Loans on debentures at 4 per cent. for three years, or at $\frac{1}{2}$ per cent. for seven or ten years.

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE.—Loans on debentures, in sums of not less than £500, for periods of three or more years (not exceeding seven), at 5 per cent. per annum.

WHITEHAVEN AND FURNESS.—Loans on mortgage or bonds, in such sums as may be agreed on, with interest at the rate of 5 per cent. per annum, and for terms of not less than three or more than seven years.

WATERFORD AND LIMERICK.—Loans on debentures, in sums of not less than £200, at 5 per cent. per annum, and for terms of three, five, or seven years.

LANCASHIRE AND YORKSHIRE.—Loans on mortgage, for three, five, or seven years, at the rate of 4 $\frac{1}{2}$ per cent. per annum.

GRAN NORTHERN.—Loans on mortgages, in sums of £500 and upwards, for any period not less than three and not exceeding seven years, at 5 per cent. per annum.—N.B. Loans may be effected for less than £500, by parties willing to bear the extra cost of the stamp.

CALEDONIAN.—Loans on debentures, in sums not less than £500.

CHESTER AND HOLYHEAD.—Loans on debentures; interest at the rate of 5 per cent. per annum.

DEMERAARA.—Loans on debentures, for a term of three to five years, in sums of not less than £500; interest at the rate of 6 per cent. per annum.

YORK AND NORTH MIDLAND.—Loans on debentures, for a term of three to five years, in sums of not less than £1000, at a rate of interest not exceeding 4 $\frac{1}{2}$ per cent. per annum.

MIDLAND.—Loans on debentures, three or five years, in sums of £1000, and upwards, at 4 $\frac{1}{2}$ per cent. per annum.

CORK AND BANDON.—Loans on mortgage, in sums of not less than £200, for the term of three to seven years.

NORTH-WESTERN.—Loans on security of the capital stock of the company; interest at the rate of 5 per cent. per annum, in sums of not less than £500.

CORK, BLACKROCK, AND PASSAGE.—Loans on security of the capital stock of the company, in sums of not less than £200; interest at the rate of 5 per cent. per annum.

THE BRITANNIA BRIDGE.—On Saturday, the first of the great tubes of the Britannia-bridge was finally lowered down again by a 3-foot fall on to its permanent bed of plates and rollers, the operation for effecting a junction with the tube on land having occupied about three weeks. The event was cheered by the assembled workmen and spectators, and hailed by the firing of cannon on the Carnarvonshire side of the straits. The hydraulic presses and lifting apparatus are now being removed from the Angleseon to the Carnarvonshire shore in order to raise the next tube as soon as it is floated to the piers, an operation which, weather and tide permitting, will take place on the 3d of next month. The operations connected with this magnificent work have now been carried on for several months both by day and night, under the superintendence of Mr. E. Clarke, the acting engineer; Mr. L. Clarke, the resident engineer; and Messrs. Foster and Wild; and, from the strenuous exertion made, there appears to be little doubt but that the first line of tubes will be opened for traffic on the 1st of March next.

CALEDONIAN, AND EDINBURGH AND GLASGOW LINES.—The *Caledonian Mercury* states that various conferences have been held between a deputation of the Edinburgh and Glasgow directors and the committee of investigation lately appointed by the shareholders of the Caledonian Railway, with a view to the amalgamation of these companies. The result is that the above parties have agreed that an amalgamation on fair terms would be mutually beneficial. In the meantime, and to keep matters open, it has been agreed to give the necessary parliamentary notices for a Bill to sanction the amalgamation. But of course when the terms of the amalgamation are further matured, the shareholders of both companies must be respectively convened to give their opinion on the expediency of this amalgamation, which we need not say, if eventually carried out, of which there is a strong probability, will be an important era in our Scottish railway annals.

M. PAUWELS.—The machine-maker of Brussels, has just sent from Antwerp to San Francisco, in California, a complete hotel, consisting of forty rooms, with beds, chairs, tables, &c., all in cast-iron. The whole takes to pieces.

EAST AND WEST INDIA DOCKS AND NORTH WESTERN RAILWAY JUNCTION.—There were no fewer than 44 tenders sent in for the formation of this company's line lying between the Lea Cut Canal and Blackwall, and the difference between the highest and lowest tender was no less than £16,000.

ROYAL BANK OF IRELAND.—At the annual meeting of the proprietors, on Wednesday last, the report stated that the profits for the year were £15,500, leaving a reserve, after paying dividends to the shareholders, of £5422. The reserved fund now amounts to £6,584. The report was considered satisfactory, especially after a year of such unparalleled commercial and general difficulty.

THE LABOURING POPULATION OF CORNWALL.

Our contemporary, the *Morning Chronicle*, has, for some week's past, been giving its readers an insight into the physical condition of the various classes of the labouring population—not only of the metropolis, but of the several manufacturing and agricultural districts throughout the kingdom. Great credit is due to the proprietors for their spirited exertions, regardless of expense, in obtaining such a mass of evidence of the condition of the labouring and poorer classes; to effect which correctly, and ascertain, from practical inquiry and investigation, the real state of the thousands who toil on from year to year, with barely sufficient sustenance to keep soul and body together, three commissioners are employed, devoting their time to this useful inquiry. From the eighth letter, published on Wednesday last, we find one in a district in which he takes great interest—the county of Cornwall—in which he gives the result of his inquiries into the condition of the labourers and their families, both mining and agricultural. He shows that the industry of Cornwall is, from its position and resources, of a varied character; it cannot be said to possess any manufactures, in the ordinary acceptation of the term, but from its peculiar maritime facilities, and also from its being the extreme and the richest part of the metalliferous peninsula which constitutes the southwest portion of England, it sustains, along with its agricultural, a large fishing and mining industry. Having given a short description of the general aspect of the county, he proceeds to examine carefully into the labourers' condition, having generally found, as he proceeded, much occurring testimony as to the superior condition of the farm labourers as compared with other counties. Having fully scrutinized every circumstance, he arrives at the conclusion, that if his money rate of wages were to be taken as the sole standard whereby to judge of his comforts, there can be no doubt but that the condition of the labourer in Cornwall would, in the main, be better than that of the same class in some of those counties. But there are considerations which enter into the question as regards the Cornish labourer which, when taken into account, detract somewhat from the standard indicated by his mere money rate of wages. Still, after having made allowance for such drawbacks as may exist, he admits that the Cornish farm labourer is, on the whole, better off than his brethren either in Bucks, Oxford, Berks, Wilts, Somerset, or Devon.

The first point to which he directed attention was, as in former cases, to the house accommodation of the labourer; and he discovered that in this, at least, there was no ground for the claim of superiority, in respect of condition, preferred for the labour in Cornwall. As elsewhere, there were around him abundant evidences of very straitened accommodation for a large and increasing population. The few cottages visible were, in all cases, old and mouldy; in many they had greatly progressed on the road to ruin, and in some were utterly dilapidated. Some of the worst specimens of these miserable tenements may be seen along the high road between Torpoint and Liskeard, and, though at great intervals, in the neighbourhood of almost all the parish roads lying north and south of the main highway. This is speaking of the purely agricultural portions of Cornwall; and he asserts, without hesitation, that the accommodation provided for the labourer in these districts is, on the average, little, if anything, better than that at his disposal in the adjoining counties.

In other parts of the county he found far better house accommodation. These, however, were invariably in districts where not only had mining been carried on, but where mines had been long established, and he found some of the miners forming a very striking exception to the rest of the population. The following is a description of a new village sprung up through mining operations being commenced in the neighbourhood:—

About a mile from Liskeard, and on the road to the Cardon Mines, is the village of Trevecka. That it is but of yesterday is indicated, as well by the superior style of its houses as by the fresh colour of the material used in their construction. It consists of 24 houses in 12 detached groups—each group consisting of two residences. The houses, which are all on one side of the road, stand back a little way from the thoroughfare—each having a small patch of ground in front, and about the eighth of an acre attached to it behind. The cottages are two stories high, counting the ground floor as a story; the building material is stone, and the roofs are covered with slate. Altogether the houses look palatial, as compared with the huts of the older villages, or such as are scattered over the face of the country; nor is their internal accommodation inferior to their external appearance. The two end houses have each five rooms; all the rest have four—two below and two above. The lower rooms are well plastered; and although the beams which support the floor above are exposed, they are clean, with a space of from 8 to 9 feet between the two floors. They are also well lighted—the windows being large, and framed in the ordinary manner, instead of being occupied by the leaden diamond-shaped frames so common in the older cottages. The staircase to the bed-rooms ascends from the inner rooms—having a good balustrade, being commodious, and of easy ascent. The bed-rooms are large, airy, and well lighted—the walls being plastered both at the sides and overhead. Between each house and the back garden is a small paved yard, with accommodation for washing and other conveniences, which should attend every household. At the extremity of the garden, far removed from the house, is a pig-stye for such as may choose to keep a pig. When I visited the village, I found but few doing so, owing to the scarcity and dearth of potatoes—barley being expensive feeding for a pig. So clean, cheerful, and comfortable a scene at once surprised and delighted me; for it was in perfect contrast with the wretched, unwholesome, and straitened accommodation which I had elsewhere but too generally witnessed. On inquiring into the origin of so unexpected a scene, I found that it had been called into existence by the extraordinary demand which had so suddenly arisen in the neighbourhood for cottages. The property on which the village stands belonged to the daughter of one of the most respectable and influential citizens of Liskeard. She projected and executed the undertaking, which has been advantageous to all parties. Some of the tenants are themselves miners, others are not; but take miners as lodgers. Several of them are agricultural labourers; and all of them, before moving into their present abodes, know what it was to tenant the wretched hovels of the peasantry. Whatever influence the style of their domicile may have had upon them, certain it is that, as regards intelligence and their personal habits, they are greatly superior to their class elsewhere. Several of them have told me that they would not return to the holes which they formerly occupied if they were given them rent free. Their altered circumstances have surprised an elevation of tone and manner, which it was pleasant to witness, and which were fraught with hope as regards the capacity for improvement of the labouring classes. The snugness of the dwellings, the tidiness of the women, and the cleanliness of the children, all betoken that one of the greatest barriers in the way of improved habits amongst the peasantry is the wretched condition of their dwellings.

The writer states, that the average rate of wages paid to the agricultural labourer may be taken at 9s. per week; this, however, is but the money rate, and by no means indicates the real extent of his command of the comforts of life. With respect to the really mining population, the same extent of information is not afforded; probably, this may form matter for another communication. Happily we know, that bad as things are, the miner in constant employment is even better off than the agricultural labourer, some of whom he found in the rich district around Truro, obtaining a regular pay of 10s. per week, with, however, a considerable drawback in the shape of rent, arising from the scarcity of house accommodation. Upon the whole, he comes to the conclusion, that while house accommodation of the labourer in Cornwall is little, if any, better than in the neighbouring counties, his condition otherwise is better, for after making all the deductions necessary from his nominally higher rate of wages, there are circumstances connected with his case, such as a continuous and cheap supply of fish, which place him in a somewhat better position, as regards diet at least, than his brethren in many other counties.

SOUTH BASSETT—GRATIFYING TRIBUTE TO THE MINERS.—The continued success and brilliant prospects of this mine rendering necessary that several shafts should be sunk to deeper levels, for more expeditious working, it followed as a matter of course that the good old custom of naming them, with proper sponsors, and the attendant ceremonies, should be observed. The amount subscribed, in this instance, by the generous and fortunate sponsors, amounted to such a handsome sum, that it induced them to suggest (and carry out their beneficent suggestion in the fullest manner possible) that the entertainment should include every man, boy, and maiden working in the mine. Saturday last, being the day after the pay and setting, was fixed upon. C. F. Giesler, Esq., one of the liberal sponsors, came purposely from London to gratify himself with the pleasure of beholding good old English hospitality so worthily bestowed upon Cornish ground to so many of its subterranean labourers. Temporary apparatus for cooking, dining-tables, &c., were speedily constructed, large joints of prime beef and mutton were placed smoking upon the festive board, of which 280 workmen partook, each having, in addition, one quart of beer and a glass of rum; the whole being most ably superintended by William Richards, Esq., of Bank-house, and the managing agents, Capts. Pope, Middleton, and Teague, assisted by the Revs. J. W. Hawkesley and — Boyd, Drs. Richards, Michell, Titus Deville, and numerous attendants, so that everything went off to the perfect satisfaction of the thousands assembled to witness this act of generous benevolence. Cheers became more plentiful than chairs; three were given for each member of the Royal family; three for Lady Bassett, and numerous other parties, followed. Then came "the ladies, with nine times nine." At 6 o'clock, above 120 of the boys and maidens were regaled with tea and cake, after which nearly 100 ladies and gentlemen sat down to an excellent dinner in the noble dining-room of the account-house; the agents and their numerous friends occupying the captain's room for a like purpose.—*Corn. Gaz.*

THAMES TUNNEL COMPANY.—The number of passengers who passed through the Tunnel in the week ending Nov. 10, was—No. of passengers, 14,302. Amount of money, £59 11s. 10d.

Original Correspondence.

SAFETY FUSE.

SIR.—A fortnight since, having addressed a few remarks through your columns, to mine agents and superintendents of mines, respecting a material—the safety fuse—which is so extensively used in all our mines, I will, with your concurrence, again draw attention to the same subject, for it is one of the greatest importance to the working miner, as it is, in truth, comprises much of the personal safety of the latter in his daily avocation; and I am sure there are no mining agents but would consider it a duty incumbent on them to secure the well-being of the labouring miner. With this, I would entreat the agents of mines to exercise their best judgment in the selection of that material, in the use of which there rested the least possible chance of the occurrence of accident; and this might, doubtless, be effected by a little caution, in simply adopting such ‘fuse’ as meets the general approval of the miner—for whose opinion, I would ask, is entitled to the same attention as that of the working miner? for in the use of a properly constructed safety fuse, rests, in a great measure, his personal safety, and, perchance, the ultimate misery of a helpless family.

Now, these are considerations which, if neglected, no delusive object of economy can, under any pretext whatever, sanctify—and few there would be who would not consider them conduct highly reprehensible where, having the direction of the affairs of a miner, allowed the introduction of a dangerous material. With much sorrow, the writer asserts that many deplorable accidents have come under his immediate observation, in mines where a defective ‘safety fuse’ has been in use. It is not my place here to point out whose manufacture of the ‘fuse’ is most desirable, or whose, in the use of which, there is danger attached, but to make it evident that there has been of late a neglect, or carelessness, or inability, on the part of the manufacturers; for the writer has been informed, on the unquestioned authority of a mine surgeon, in very extensive practice, that “the increase of accidents from premature explosions, since the expiration of certain manufacturers’ patent, has been, at least, 7 per cent.;” and these alone have occurred under this surgeon’s individual notice—therefore, there must be some reasonable grounds of complaint somewhere; and, I think, you will agree with me, that the sooner they can be got rid of the better. In conclusion, let me beg of every friend of the working miner to lend a hand in removing any, and every, such cause of complaint.

Redruth, Nov. 13.

SPECTATOR.

COPPER SHEATHING.

SIR.—As no one seems disposed to offer any further observations on the management of ores, not even “T. H. S.” from whom we were led to expect a share in the discussion, nor GERMANICUS, beyond the accordance, in his last, with Mr. Williams’s opinion, before quoted, respecting the use of mucky ores; and as nothing satisfactory occurs to me to add upon this branch of our inquiry, until answered on the present influential constituents of the different foreign ores, especially those containing large proportions of oxide, carbonates, muriatic, and other salts, unless A ROASTER MAN has any further inquiries, or observations, to make on this department, we may as well proceed with the questions on calcination, hoping they may give occasion to revert to the ores, and throw more light on their treatment, as connected with the first calculation. And let me here, in reference to his last letter, assure him that he may always reckon upon the most direct and explicit answers within my own knowledge, or trustworthy information. If I see reason to object to a question, it shall be done openly and plainly; no subterfuges or evasions, but speaking decidedly only in cases of certainty, and doubtfully in cases of opinion; nor yet filling your columns with details, unless requested so to do, as these letters are intended, not for the general reader, but for working men, as well, or better, acquainted with the practical details than the writer.

Nov. 13.

J. PRIDEAUX.

THE WINDOW DUTY.

SIR.—It seems to me most inexplicable, that amidst all the suggestions and recommendations of Sanitary Commissions and the Board of Health, the most important of all—viz.: the wicked and most impious tax, that on the light of Heaven—has never once been mooted. A more unjust and oppressive impost than that of window duty is altogether inconceivable. In a sanitary point of view, light is as indispensable as the air we breathe; it is emphatically the vital principle of the atmosphere, and its *vie medicatrix*, when it is languid or moribundly affected. Surely we might reasonably expect, as *lament*, a vast modification of this infamous incubus on the boon of health and enjoyment, and some common-sense definition of the term “window.” Has Cerberus received a sop, that these so-called Sanitary Commissioners should be so silent?

J. MURRAY.

Portland-place, Hull, Nov. 13.

INCOMBUSTIBLE FABRIC.

SIR.—Sir David Brewster, the other day, introduced to the notice of the British Association a specimen of incombustible cloth, manufactured at Dundee, the material employed to render it so being phosphate of magnesia. All the phosphates have this property more or less, and in the first edition of my work *On Flame and Safety-Lamps* (1833), I referred to this fact in the case of phosphate of ammonia. Silicate of potass has a similar character.—*J. MURRAY.* *Portland-place, Hull, Nov. 13.*

THE “TEMPERING OF CLAY” AND BRICKMAKING.

SIR.—I observe a patent granted for “preparing clay.” I know not exactly to what this refers; but a subject more important to the community cannot be easily conceived of. The evil, however, which I have already pointed out in a former communication to the *Mining Journal*, is overlooked and left intact—namely: the particles and fragments of calcareous matter, interspersed among the clay employed for making bricks. The carbonate of lime becomes converted into quicklime by the heat of the furnace, and the brick bursts on the first accession of water. Besides, bricks are porous, and quickly absorb moisture; and when this is followed by frost, the expansion of the water in being frozen will rend the brick as if by the explosive force of gunpowder.

There is, therefore, nothing occult or mysterious in the fall of the arches of viaducts or aqueducts during the prevalence of rain, or rain immediately succeeded by frost. The recent fall of, I believe, 13 brick arches in Lancashire, is no mystery. I know an instance of upwards of 100,000 bricks reduced to dust by a single night’s frost, being preceded by rain.

Brickwork should, therefore, be assiduously protected from wet; above all, in the case of the viaducts of railways. The exposed surface should be brushed over with oil or coal-tar, and the upper layers of brick be caased with asphalt, so as to exclude the wet which would permeate from above.

Portland-place, Hull, Nov. 13.

J. MURRAY.

PHILLIPS’S FIRE EXTINGUISHER.

SIR.—You will see, by the annexed extract from a work of mine (1831), that Mr. Phillips, in his “fire annihilator,” has filched “a leaf out of my book,” and appropriated, in his patented invention, what I had already applied, giving my process a new direction, and employing it to a different purpose.—*J. MURRAY.* *Portland-place, Hull, Nov. 14.*

INVENTION FOR SAVING FROM SHIPWRECK.—(Published in 1831).—The arrangement is supplied with an appendage for illuminating the sight of the arrow and the scene of shipwreck. It consists simply of a cylindrical sheath, or socket, containing the materials of illumination, consisting of a mixture of finely-powdered chloride of potassa and sugar-candy, intimately blended together. A spindle, supplied externally with a flat head, enters by its extreme end into a miniature phial, supplied with sulphuric acid, sealed with a drop of bees-wax. As soon as the arrow leaves the gun, the reaction of the air on the head of the spindle drives inward the plug of wax, and liberates the acid, which instantly kindles the mixture, the brilliant flame immediately fills the globular cage of wire-gauze which surrounds it, and the intensity of the light is rendered still more dazzling and splendid by adding a bit of phosphorus to the inflammable powder. This part of the apparatus is made altogether independent of the arrow, and may be easily attached when circumstances require it, as when the darkness of the night renders it imperative. The combustion which forms the source of the illumination cannot be quenched, either by the sea-spray, or a deluge of rain, the medium of support being supplied from itself, altogether independent of the external atmosphere, however charged with watery vapour or rain, and the combustion is too fierce to be at all affected by the wind, even at its maximum degree of strength.—*Extract from Introduction, p. 12.*

BREAD AND WHEATEN FLOUR.

SIR.—I see the lecturer at the Polytechnic Institution has taken for his subject our daily bread. The adulterations to which it is sometimes subject are many and various—*inter alia*, alum and chalk, gypsum and pipe-clay. In some cases we have ourselves to blame for these dangerous freaks. Bread must be of snowy whiteness—whiter than the material can make it. Some adjunct, therefore, is necessary to minister to a morbid taste and depraved appetite, and the very essence of nutrition is sacrificed to the shrine of a blanched surface. The eye the umpire that must decide, though health should be the forfeit; and then we must have “unfermented bread,” as if the very word *fermentation* were some scare-crow—

a bug-bear to frighten us out of our senses. That the changes superinduced in bread by the act of fermentation are otherwise than wholesome I have yet to learn; while by the new-fangled process we abandon the *only test* of the quality of wheaten flour, and run the risk of being poisoned, arsenic being generally found in one of the materials used—viz.: muriatic acid. I have analysed several specimens of the wheaten flour of this season, and am happy to announce that they were found to be unusually rich in gluten—a highly organised substance, and eminently nutritious, having protein for its base.—*J. MURRAY.* *Portland-place, Hull, Nov. 13.*

LECTURE ON THE CHEMISTRY OF FOOD.

SIR.—I perceived, in your last week’s Journal, a notice of a lecture delivered by Mr. Ashley on the chemistry of food, referring to bread in particular, showing how to detect impurities in it; and, amongst other things, he insinuates that chalk and gypsum are matters common in bread, known as “seconds” and “thirds.” There may be some of the public, and I believe many, who really think that such things as chalk and plaster of Paris (as gypsum really is) are mixed in the flour to make into bread; but in hazarding such an assertion publicly, the lecturer ought to be fully acquainted with the opposite nature of chalk and wheaten flour, and also with the process of making bread; had he been so, I am quite certain he never would have made such an observation. I am a little acquainted with the making of both flour and bread, and am sure there is not one ounce of either chalk, or gypsum, used in making bread within 20 miles of the Royal Exchange in any week; and if ever so small a quantity of either got in by accident, it would be detected instantly it was eaten by the teeth; and also to manufacture the article in any way to soften it, would cost more than the flour itself does.

This lecturer should at least know, that to make good bread, it requires to rise both in dough and also when in the oven; but with either of those ingredients in it, would be impossible for it to rise at all—the only object I consider Mr. Ashley could have had, was to make his audience think him very clever; but knowing, as I do, this chalk and gypsum story to be so directly false, I cannot believe that his lectures can ever be of any value, either to the public or to the institution at which they are delivered, besides the fact of his blasting the characters of a large number of tradesmen who do not deserve it. There is no one article of these earthly natures that can be used in bread, nor do I believe any one of them are used for that purpose in England. I trust you will give this a place in your next, and if this lecturer feels himself right, let him try the experiment by personal application, and then he will find his error.

H. SMITH.

Southwark, 11th mo. 12.

ROTARY ENGINES.

SIR.—I had not until to-day observed the article requesting my views on a question put in this Journal of Oct. 27, which are as follows:—20 + 1 = 21 lbs., the pressure on a square inch of the piston, when that of the atmosphere is 15 lbs. on 1 square inch—taking from which about one-fourth as expended by the air-pump (= 5 lbs.), one-third for friction (= 7 lbs.), and 1 lb. for the deficit of vacuum in the condenser, there remains $\frac{1}{4}$ lbs. for the beneficial or actual work per square inch of the steam piston, which agrees with the case given by Mr. Mushet. Of the annihilation of power at the ending of and recommencing each stroke I have no knowledge, excepting that in the reciprocating engine provided with a fly-wheel, what ever power of steam is expended in producing motion in any part of the engine, the motion so produced will return an equivalent effect by the time it is destroyed, the friction and resistance of the air excepted.

Upper Penton-street, Nov. 10.

JOHN CUBR.

ROTARY ENGINES—AIR ENGINES.

SIR.—You will oblige me by the privilege of putting a question to Mr. David Mushet relative to his communication in the *Mining Journal* for Nov. 10, on the subject of rotary air-engines. Query—Does Mr. Mushet mean to assert that a steam piston, working a blowing piston at a blast pressure of 2.5 lbs. per square inch, equivalent to 5 in. column of Hg., with cold-blast, is competent, when the blast is heated to 600° Fahr., to support a column of Hg. on the blast piston of 7.5 inches, equivalent to 37.5 lbs. per square inch? Or, secondly, does he mean that, whilst the resistance in the blowing cylinder remains the same with both descriptions of blast, the aerial expansion at the tuyères subtends a pressure of two augmented to three? If Mr. Mushet’s argument be just, and his fact a fact, as above alluded to, how comes it that betwixt the use of hot and cold-blast, with the same blowing-engine, such an enormous diminution of blast obtains to make a ton of iron, when it is heated by transmission through hot pipes? That heated air is more elastic—i. e., compressible—than cold air every one will admit; but, then, in such cases, as I opine, elasticity, or which is the same thing, springiness, stands to density as speed to power, and both conditions capable of equal resistances, degree for degree. As facts are the germs of our knowledge, we ought to be extremely cautious how we admit mere assumptions to the rank of these scientific truths, the deductions from which, instead of truth, may induce dangerous errors. As I have some notion that the forward motion of heated air in hot pipes, impelled to motion by a *vis-a-tergo*, may tend to press more “in fronte” than “a-tergo,” I should like to have some of Mr. Mushet’s actual observations on this important topic.

November 12.

Wm. RADLEY, Ch. E.

IRON AND CARBON.

SIR.—It is a pity Mr. Leighton’s ability should be perseveringly diverted to maintain his strange theory on the constitution of bar-iron. I will say nothing of the physical impossibility of a fluid of the specific gravity of cinder remaining in the interstices of welding-iron, under a pressure of sometimes 100 tons; but let him test his theory by examination. Apply the highest microscope to the bright fibres of finished iron torn asunder; every lamina of the piles can be traced on the outer surface of a bolt, well twisted and rent, affording a plain guide where to look amongst the fibres for his cement; or submit the different Nos. of bar-iron to chemical analysis. It is evident the greatest proportion of oxide ought to be found in the most finished bar, which has been the most often piled. What paradox can be greater than to assert the perfection of a metal depends on its imperfection? In the case of tin plates, which he adduces, it is evident, if the plate were in alternate layers of such a different tensile and elastic power as cold iron and cold cinder, the bending would separate it into a multitude of arcs, of different curvature. A sheet of worked tin plate would become a film of eccentric and concentric bubbles; working bars under vertical blows would be converted to something like wire besoms. Where is the cinder cement to be detected in best boiler plate, which cuts like lead before the chisel? In fact, as no reason can be assigned why the cinder should attach itself to the iron in one direction and not in another, it must enclose the particles from the first puddled ball, and be elongated in fibres along with the iron in subsequent rolling; so that a longitudinal section of a finished bar would present, in each fibre, an inch or two of iron, and then an inch or two of cinder, accomplishing the very perfection of continuity. Were studied ingenuity to set about devising a theory at variance with fact, it could never exceed this, which is surprising any one who has attended to the properties or manufacture of iron can advance.

It is much to be regretted that such notions should appear where there is any scientific pretension. The effect is to set men of practice against the very name of science, and to deprive both of the advantages legitimately to be derived from their union.—*DAVID MUSHET.* *Nov. 13.*

PATENT LAW REFORM.

SIR.—I regret Mr. Campin should find an apathy on the part of inventors towards realising those improvements which their petition, jointly with his exertions, appear to have placed within reach. There is no question the proposed change of permitting a patent right to date from the time of application, or payment of a small preliminary sum, will be a vast step for the better. Many inventions cannot safely be put to the test of practice until after the patent is sealed, so that it can only undergo the test required to prove its value in the short interval elapsing before the date of specifying. If it is found in this period to be inapplicable, from reasons arising on the large scale, the whole outlay is at once sunk; but by the small preliminary payment, the inventor will be enabled to ascertain if his project is deserving of the whole outlay. If it is not, he drops it at a small loss, or he has ascertained what modifications are required, and proceeds, *de novo*, at a small additional cost. In a more fiscal view, it is so well established, that small dues produce large revenue, that we cannot doubt the change would increase receipts as a Government tax. No doubt applications would hereby be facilitated for numerous ill-digested and futile schemes; but I see no serious evil in this to weigh at all against the facility afforded for perfecting schemes of genuine utility.

I think I am inclined to value more highly than Mr. Campin the effect

of reducing the whole fees to 100*l.* It is true this is also a great sum to a poor inventor, but it can be found with much greater ease than the mere ratio between the amount and that of the present charge. There is a manifest injustice in the separate charges now made for the three kingdoms. They are a relic of separate institutions and interest, which have long since been united; and as the causes of the separation have ceased, it is a gross abuse to retain their effects, and, in fact, an absurdity, utterly at variance with the national position; and, bad as the principle is, its application is worse. If 100*l.* is a fair charge for the advantage of a patent in England, 10*l.* is far more than an average proportion due to the advantage an Irish patent can be expected to yield. For Scotland 30*l.* perhaps, might be taken as a fair ratio; but instead of this the enormous sum of 135*l.* or thereabouts, is demanded for Ireland—not for any substantial good, but merely as an accidental defence against piratical dealings. The charge for Scotland is not so grossly exorbitant, but it is very nearly as much as the main cost. I cannot but think the basing down these extravagances to a single charge of 100*l.* is a proposition well deserving support.

Mr. Campin regrets he sees no immediate prospect of exchanging the present system of payment for the small annual charge established abroad; but I doubt if our system in this point is really so objectionable as may at first sight appear. The great subdivision of foreign capital, and the constant intervention of Government influence in all matters, public or domestic, renders the foreign plan more congenial to their wants and their habits. Such payment as we have to make would be a total prohibition to the foreigner, so that they have a plan dictated by the necessities of their condition. If the first charge were fixed at a *reasonable* rate in this country, it, perhaps, might continue as a more suitable arrangement to us than a system of tax gathering to call in the yearly dues. I think Englishmen in general would prefer to buy their patent, and have done with it, rather than to be looked up periodically by an *employé*; the patent right is at least secured. It often happens that, after a long unproductive interval, a patent becomes valuable; and if in such an unpropitious or necessary period the yearly payment had not been kept up, the right would have lapsed, inflicting hardship, in a different form, upon a poor inventor.

There are two more divisions of the subject—the first *obtaining* the patent right, the second *preserving* it. It would be a vast step if more stability could be given to this sort of property, and the costs lessened of defending it. I shall look with interest for what Mr. Campin promises on these heads. A patent of uncertain value may pass undisturbed; but in proportion to its originality and undoubted merit, so are the difficulties and dangers it is certain to encounter. It is true much of this risk is inherent in the subject, for if old recognised rights are liable to contest, much more so must be a right so novel and undefined as an original invention. I fear this is a hard point for improvement. The legislative dexterity now arrived at in framing unintelligible Acts, which require to be amended again and again by enactments equally unintelligible, is far from encouraging. There is a sad want of comprehensive mind to digest a subject to its main bearings, and to compress a multitude of petty expedients with the vigorous grasp of design.—*DAVID MUSHET.* *November 13.*

MOTIVE-POWER.

SIR.—I perceive that Mr. Isham Baggs took out a patent on 9th Feb., 1842, for improvements in obtaining motive-power, by means of carbonic acid, &c. I beg to inquire if the above Mr. Baggs is the same gentleman whose letters have recently appeared in your valuable Journal; if so, I think I can draw his attention to a subject which is calculated to effect great economy in the above invention. The subject matter appeared in the *Mining Journal* some time ago, but I do not apprehend it would be noticed by Mr. Baggs.—*AN OLD SUBSCRIBER.* *City, Nov. 14.*

HAIG’S IMPROVED APPARATUS FOR THE TRANSMISSION OF AIR AND GASES.

We have inspected, in the course of the week, an apparatus for exhausting vitiated air from any situation where it may have become accumulated, and thus causing a pure current to supply its place, such as in ships, hospitals, churches, sewers, vaults, wells, brewers’ vats, and under numerous other circumstances which will readily occur to the reader. It is constructed somewhat on the principle of the common fan, but without band of any description, or cog-wheels—thus rendering it exceedingly easy to work, with a minimum of friction, very durable, and so portable that it can be made fit for use in a few minutes, and as easily packed away when done with. It consists of an iron frame, through the upper portion of which runs a shaft, turned by a winch-handle, or by other motive-power, if required; on this shaft is fixed a disc, having a rebate, or flat ring, projecting on one side all round its periphery. On the same shaft which carries the fan, and which is placed below the one first named, is fastened a small drum, which works on the inside of the ring, on the disc before mentioned, and, being kept in close contact with it, answers all the purposes of a belt, with a vast deal less friction, and consequent saving of power—it revolving itself, in fact, into a friction wheel, as well as a transmitter of force. It may be worked either as an exhaust or as a bellows, or propeller of air, by which means its uses may be very greatly extended. As a ventilator, we have no doubt it must be very effective, either for small or large chambers, or large buildings, such as churches, assembly rooms, &c.; and, on a larger scale, it appears to us that the principle might be advantageously applied to mines, under many circumstances where, without some such artificial means to cause currents of air, the more distant workings are generally and often unapproachable, until other communications are made by winches. As bellows, for the use of engineers, smiths, chemists, &c., the apparatus will prove of much advantage, the blast being powerful and continuous, and producing on iron a welding heat more powerful than can be obtained by the common forge. They are manufactured, and kept in stock, of six different sizes, from 20 to 36 inches high, capable of exhausting from 2000 to 6000 cubic feet per hour, and, of course, of driving a proportionate quantity when used as bellows.

RAILWAY INJURIES.—For some time an idea has prevailed, either that railway collisions are effectually guarded against, or that their occurrence is withheld from the public. We cannot believe it to be possible that any local journal would suppress the publication of whatever he was informed, within the sphere of his labours; although we can as easily understand how much, and why, railway directors may desire to have accidents happening upon their lines hushed up as quietly as possible. However, the very severe injuries inflicted upon so many persons, by the accident on the Blackwall Railway, on Wednesday last, will naturally excite considerable attention. We thus particularly notice it, because, as we learn from the London journals, the single journey tickets of the Railway Passengers’ Assurance Company are not issuable on that line; nor on several other short lines, the Greenwich and West Kent, for instance. The reason assigned is, that the directors of those lines could not see the utility of their use where the transit of passengers is accomplished in such short periods; forgetting that the concurrent increase of trips is more than an equivalent in the production of risk. They must be now satisfied of their error, or soon will be, when the “compensation charges” how in upon them. Nor will passengers be less speedily disabused of the same mistake. All considerations apart, as between them and the railway directors, who among the fractured, wounded, or maimed ones, who barely escaped death on the occasion mentioned, would now feel some consolation in having afforded to them the surgical and pecuniary aid of the Assurance Company, in return for the pence laid out in the purchase of the requisite tickets?—*Liverpool Courier.* [Our contemporary is quite right. The main first-class passengers would

AUDIT OF RAILWAY ACCOUNTS.

Yesterday, in pursuance of the resolutions passed at the meeting of the representatives of railway companies on the 8th inst., communications in conformity with the instructions of the committee of railway chairmen appointed to prepare a bill for Parliament, were transmitted to the secretary of every railway company in the kingdom, calling their attention to the resolutions passed at the meeting, and to the suggested provisions of the proposed bill for the more efficient audit of railway accounts. Particular attention is called to the fourth resolution, recommending that these suggestions should be circulated among the shareholders, as the parties most concerned in the efficiency of the audit, with a view to obtain their opinions on the outline of the bill. Accompanying is a form of circular for communicating the suggestions to the shareholders, the result to be reported in the following form:—Number approving, number of shares; number disapproving, number of shares; special answers, number of shares. The committee express themselves reluctant to impose this trouble, but state that the particular board of directors and secretary to whom the communication is addressed will feel that it is necessary, once for all, to establish a system of audit, not only satisfactory, but which Parliament may be assured is satisfactory to shareholders. The circular proposed for adoption by the various companies in taking the sense of the shareholders, to be signed by the respective chairmen and secretaries, sets forth that it is wished the opinion of all shareholders should be obtained concerning the proposed bill. If they disapprove of the suggestions, they are requested to intimate it, either with or without their reasons for it. If, on the other hand, they are not heard from, it is to be assumed that they approve the proposed outline of the bill, as embodied in the resolutions of the delegate meeting of directors on the 8th inst.

Yesterday also the directors of the London and North-Western Railway Company issued official communications to all their shareholders on the subject, signed by Mr. Stewart (the secretary), which, in the form of interrogatory, differ from the preceding one drawn out for general adoption. The communication commences by advertizing to the resolutions of the proprietors passed at their special general meeting on the 17th July last, when it was resolved that the proposed compulsory interference of Government with the accounts and affairs of railway companies would be highly objectionable, both on public and private grounds, and that for these reasons the directors be instructed to oppose the bill; but that, under existing circumstances, it was expedient that it should be made compulsory on the auditors of railway accounts on all occasions to call in to their assistance some known public accountant, but without the interference of Government. Accompanying the communication are the resolutions passed at the meeting of railway directors on the 8th, coupled with a request that the proprietors will transmit their approval, or otherwise, of the suggestions for the proposed bill for the information and guidance of the directors in the course they may find it necessary to pursue with reference to the question of audit by the proprietors, and of Government interference in the conduct and management of railway property. The communication concludes by impressing on the proprietors the desirability of an immediate and serious consideration of the matter, and calls upon them to assist in forming such a measure as will secure an efficient audit vested in themselves, and so avoid the permanent evils to be apprehended from the interference of Government in commercial affairs. Questions upon the following points are then put to the proprietors for reply:—First, as to whether they approve or otherwise on the suggestions generally, and, if specially, whether it should be compulsory on the auditors to be appointed by the proprietors to employ a known public accountant? Then, upon the question whether the audit of the account should be continuous; if the half-yearly financial statement of all the companies should be made out as nearly as may be in the form prescribed, &c.; whether it shall be competent for a minority to appoint special auditors and accountants as suggested. The directors of the London and South-Western Railway have informed their proprietors, simultaneously with the transmission of the suggestions, that an opportunity will be afforded them at the special general meeting on Wednesday, the 26th instant, for collecting the views of their proprietors on the subject.

RAILWAY RECEIPTS.—The following increase has taken place in railway receipts during the past week, as compared with the traffic of the corresponding period of last year:

Lancaster and Carlisle	£295
Eastern Union	297
Edinburgh, Perth, and Dundee	371
Glasgow, Paisley, and Greenock	319
Eastern Counties	436
Midland	858
North British	896
London, Brighton, and South Coast	1002
Lancashire and Yorkshire	1458
London and North-Western	2934

The London and South-Western traffic has decreased 3162; the York, Newcastle, and Berwick, 7712; and the Great Western, 3272.

PARLIAMENTARY EXPENSES.—To construct a certain Scotch line of 80 miles in length, no less than 21 Acts of Parliament were required.

The directors of the South Devon Railway Company have presented many of the policemen and linesmen, the longest in the service of the company, with a doceur of £1 each, in recognition of their steady and punctual discharge of their duties.—*Railway Times*.

It is announced that the directors of the London and North-Western Railway have refused the application of the Caledonian Company for an advance of 200,000*l.* or 300,000*l.* upon security of the rolling stock of the latter.—*Ibid.*

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Bate's West Hartley 14 6—Carr's Hartley 14 9—Davison's West Hartley 15 3—East Wylam 14 6—Hastings Hartley 14 9—Hedley's Hartley 13 3—Holywell 16 6—North Percy Hartley 14 6—Newcastle Hartley 13 3—Ords Redheugh 15 6—Ravenworth West Hartley 14 6—Townley 15—West Hartley 15—Windlesham 16 3—West Wylam 15 3—Wain's End Bensham 15 9—Elm Park 16—Gainsborough 16 3—Northland 16 3—Bradbury 16—Billmankill 16 3—Washington 16—Eden Main 17 to 16 6—Bell 17 3—Belmont 17 6—Bradbury 18—Hutton 18 6—Hutton 18 6—Jarrow 18 3—Lambton 16—Millbank 15 6—Old Duck 17—Percy's Hutton 18—Stewart's 13 3—Whitwell 16 3—Howden 16 6—Heugh Hall 16 9—Kelloe 18—South Kelloe 16 9—South Hartlepools 17 6—West Hartley 16 9—Adelaide Tees 17 9—Cowdon Tees 16 3—Tees 18 6—Austhracite 20—Austhracite through and through 16—Cowdon Hartley 14 9—Howard's West Hartley Netherthorpe 15 3—Langennec 20—Nixon's Methyr and Cardiff 21—Risca Rock Vein 17 6—Sidney's Hartley 14 9—Ships at market, 284; sold, 97.

WEDNESDAY.—Bate's West Hartley 14 6—Carr's Hartley 14 6—East Adair's Main 14 9—Hastings Hartley 14 6—North Percy Hartley 14 6—New Tanfield 14 3—Ravenworth West Hartley 14—West Hartley 14—Wylam 15 6—West Wylam 15 6—Wall's End Acorn Class 15 9—Hotspur 15 3—Northumberland 15 3—Riddell 15 6—Wharncliffe 16—Washington 15 6—Lambton Primrose 17 3—Bell 17—Belmont 16 7—Heselden 16—Stewart's 16 3—Coppen Hartley 14 6—Nixon's Methyr and Cardiff 21.—Ships at market, 222; sold, 44.

FRIDAY.—Carr's Hartley 14 6—Davison's West Hartley 15—Adair's Main 14 6—Hastings Hartley 14 6—West Hartley 14 6—Newcastle Hartley 14—Ravenworth's West Hartley 14 6—South Pearcey Hartley 14—Stewart's Hartley 14—West Hartley 13—Wylam 16—Wall's End Hotspur 15—Northumberland 15—Percy 15 3—Riddell's 15 3—Eden Main 17—Lambton Primrose 17—Belmont 17 6—Hutton 18—Hastwell 18 3—Hutton 16 3—Cassop 17—Heugh Hall 16 6—South Kelloe 16 6—West Hartley 16 6—Whitwell 14 6—Brown's Deanser 17—Cowdon Tees 16 3—Seymour Tees 15 3—South Durham 15 9—Tees 18—Coppen Hartley 14 6—West Hartley Netherthorpe 15—Nixon's Methyr 21—Sidney's Hartley 14 6—Ships at market, 242; sold, 77.

DELIVERY OF COALS, &c., IN THE PORT OF LONDON, DURING OCTOBER.

	Ships.	Tons.
Newcastle	476	149,358
Sunderland	373	104,938
Stockton, Middlesbrough, &c.	300	76,399
Blyth	39	5,958
Scotish	4	287
Welsh	57	15,522
Yorkshire, &c.	38	2,752
Small Coal	6	1,510
Cinders	2	195
Total	1292	360,434

From the 1st of January to the end of October, 1845, 2,844,427 tons were delivered in London from 10,299 ships. In the corresponding period of 1844, 2,700,106 tons were delivered from 9668 ships. Decrease in 1845, 411 ships and 144,321 tons.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of Oct. is 25—the quantity of coals consumed being 1862 tons lifting, in the aggregate, 18,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 55,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Loud per sq. inch	Strokes per min.	Consump. of coal in busht.	Millions lbs. lifted by 1 cwt. of coal	Mills. lifted 1 foot by 1 cwt. of coal	Millions lbs. lifted by 1 cwt. of coal
East W. Crofty	Freeman's 80	10'33	42,333	19'2	5'4	2370	59'2	71	59'2
Poldies	Sim's 85-inch.	10'9	5'5	3290	58'4			70	
United Mines	Carroll's 90-in.	11'0	97,621	15'6	5'3	2694	78'9	94	78'9
Ditto	Edson's 30-in.	9'9	100,682	13'8	6'0	2386	57'7	69	57'7
Ditto	Edson's 30-in.	9'9	13,631	16'0	6'2	511	67'0	60	67'0
Ditto	Loose's 85-inch	10'0	87,947	11'6	6'1	2006	56'5	67	56'5
Ditto	Hocking's 45-in.	10'0	97,817	14'4	6'2	3641	56'8	68	56'8
Ditto	Gardiner's 40-in.	12'0	75,937	12'0	7'3	3000	69'1	72	69'1
Ditto	Prosser, 70-inch	10'0	72,008	16'8	4'3	1680	67'5	60	67'5
Ditto	Michell's 70-in.	10'0	66,988	16'1	3'9	1440	69'4	63	68'3

THE GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND.

NOTICE IS HEREBY GIVEN, that APPLICATION is intended to be made to Parliament, in the ensuing Session, for an ACT or ACTS to facilitate the ARRANGEMENT AND SETTLEMENT of the AFFAIRS of the Corporation of the GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND, and to confer on the said Corporation ADDITIONAL POWERS of SALE and TRANSFER of their UNDERTAKINGS, PROPERTY, ESTATES, and EFFECTS; and also to enable the said Corporation to transfer their Charters or Charters to another company, to be entitled "THE GOVERNOR AND COMPANY OF COPPER MINERS IN ENGLAND," or to be called by some other name or title, and to enable such new company to purchase and hold the said Property, Estates, and Effects, or any part thereof, and to raise a Joint-stock for that purpose; and also to ALTER and ENLARGE certain of the Powers contained in the said Charter or Charters, and otherwise to vary the same, as by reducing the number of the Court of Assistants of the said Corporation, and by limiting the power of the said Corporation to borrow Money on debentures or mortgage, and to require the appointment of Auditors of the affairs of the said Corporation, and to confer on such new Company certain additional powers, and to enable them to raise a further Capital or Joint-stock, by the creation of Preference Stock or Shares, or otherwise; and to give to the Shareholders of such new Company power to call General Meetings, and to regulate the proceedings at such meetings, and also to facilitate the legal rights and remedies of such new Company.—Dated the 7th day of November, 1845.

L O Y D ' S P A T E N T F A N B L O W E R .—The attention of FOUNDERS, ENGINEERS, GAS COMPANIES, MANUFACTURERS, &c., is respectfully directed to the PATENT FAN BLOWER, as being the best machine hitherto introduced for blowing, exhausting, or giving motion to aqueous fluids, at either high or low pressures. It will do the same amount of work as the ordinary Fan Blower, with HALF, and in some cases as little as ONE-THIRD of the POWER, and when at its highest speed, is wholly unaccompanied by the disagreeable humming noise which invariably attends the common machine.

Further particulars may be obtained on application (by letter or otherwise), to George Lloyd, 70, Great Guildford-street, Southwark.

Shortly will be published, in Lithograph,

A SYNOPSIS OF THE CORNWALL TICKETINGS FOR COPPER ORES.

From 1815 to the same period; which contains the following information—viz.: the Standard, Produce, Price, Quantity of Copper Ores Sold, Amount of Money realised, and the Quantity of Fine Copper produced; with respective fluctuations for each year, as well as for every six years; exhibiting also the totals and averages for the whole period collectively.

The above information will be contained on a large sheet of drawing paper, on which the Standard in each year will be delineated by horizontal lines of various colours, pointing to the particulars thereof; the said lines having a scale affixed to them, for the purpose of showing the continued RISE and FALL annually of the STANDARD.

These SYNOPISES—as is the case with the original—will be "Inscribed, by permission to Joseph THOMAS TREFFRY, Esq., of Fowey, the greatest employer of miners and other labourers in the West of England."

The original sheet was exhibited at the recent meeting of the Royal Cornwall Polytechnic Society at Falmouth, where it was regarded with much interest by gentlemen connected with mining and smelting pursuits. The compilation was awarded with a medal, and was thus favourably noticed in the Judges' Report:—"This paper, in the judgment of the committee, contains a very valuable series of deductions from published ticketing papers, very conveniently arranged for reference."

It is proposed to publish the work by subscription, price 7s. 6d., or with rollers, 10s each, and parties wishing to procure copies will please apply at once to the compiler;

Mr. WILLIAM POLKINGHORNE, Fowey Consols, near St. Austell: or at the office of the *Mining Journal*, No. 26, Fleet-street, London.

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